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COMMISSION

AGENDA MEMORANDUM Item No. 8e

ACTION ITEM Date of Meeting August 9, 2022

DATE: July 11, 2022

TO: Stephen P. Metruck, Executive Director

FROM: Dan Hytry, Manager, Mechanical Systems

Mike Tasker, Director, Aviation Maintenance

SUBJECT: Chiller 6 Repairs

Amount of this request: \$500,000

Total Requested project \$500,000

cost:

ACTION REQUESTED

Request Commission authorization for the Executive Director to prepare, advertise, award, and execute appropriate contract documents to procure Repairs to Chiller 6 in the Central Mechanical Plant (CMP) at SEA. The agreement would be structured to execute required repairs to Chiller 6, currently estimated at \$500,000.

EXECUTIVE SUMMARY

Chillers provide cold water for the HVAC systems, which in turn provide cool air for critical equipment, planes, passengers, tenants, and employees throughout SEA. Chiller 6 has failed to such an extensive level that the existing maintenance contract would not have funding capacity to effect repairs. It is for this reason that we are asking for specific funding to repair this asset using Major Construction contracting. In 2021, a quote was prepared for anticipated repairs and an expense budget line item was requested, and approved, for the 2022 budget in the amount of \$150,000. In early 2022, additional repairs were identified that were not previously accounted for. The total anticipated cost to repair Chiller 6 has increased substantially to \$500,000. There may still yet be other unknowns with this type of work that won't truly be discovered until the asset is disassembled.

JUSTIFICATION

Chiller 6 at SEA has not been operational for approximately two years. This is one of eight chillers at SEA and provides roughly 10% of total capacity, all of which is critical to passenger comfort. Having all chillers available allows for resiliency during peak cooling season. In addition, Facilities & Infrastructure is upgrading the chiller controls on other chillers and Chiller 6 is part of that

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upgrade. This chiller must be operational to complete the project work and is sequenced to be upgraded last to allow time for repairs on Chiller 6 to be completed.

DIVERSITY IN CONTRACTING

We are working with Diversity in Contracting to determine if a WMBE Aspirational Goal can should be established.

DETAILS

Scope of work was prepared by F&I to breakdown the specific items needing attention on Chiller 6.

Scope of Work

Disconnect Chiller 6 from operating system and perform breakdown and repairs, servicing or replacing several faulty components, performing cleaning, replacing seals, bearings and gaskets, reassemble, charge with refrigerant, test for correct operation, and return to service. Some components will be sent out for specialty repairs.

Schedule

A new RFP will be issued upon approval of this request.

Activity

Commission design authorization 2022 Q3

Design start 2022 Q3

Commission construction authorization 2022 Q3

Construction starts 2022 Q4

In-use date 2023 Q1

Cost Breakdown This Request Total Project

Design \$50,000 \$50,000
Construction \$450,000 \$450,000
Total \$500,000 \$500,000

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Previously, \$150,000 has been approved in the 2022 budget for repairs. We are seeking \$500,000 with this request.

Alternative 1 – Do not approve additional funds for the repair of Chiller 6.

Cost Implications: Spend the already approved \$150,000 to perform disassembly work on Chiller 6 in efforts to validate the newest quote for repair.

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Pros:

- \$150,000 has already been approved in the AVM Expense budget for work on Chiller 6. This would be enough to start work, but unfortunately would not be enough to return the asset to full service. We would be able to disassemble the chiller, confirm the repairs proposed, perform some level of repairs, calculate the new repair costs most accurately, and wait for additional funding to complete the work.

Cons:

- By waiting to perform repairs on a protracted schedule, continued atrophy of the asset will continue. As is, gaskets have already dried up from sitting idle and need to be replaced. Some components are rusting from inactivity. Further deterioration will occur.
- If we wait too long, possibly yet another maintenance contractor will replace the current maintenance contractor (who is most familiar with the equipment).
- Costs of materials continue to escalate due to supply chain issues and availability.
- Chiller 6 is unable to be utilized for the cooling season (summer). Customers will be affected by elevated ambient temperatures within SEA and possibly other assets will be damaged by inadequate cooling.
- We continue to run the other available chillers above maximum capacity, thereby reducing their lifespan and potentially running them to failure without backup.

This is not the recommended alternative.

Alternative 2 – Replace Chiller 6 in its entirety.

Cost Implications: The cost of a new chiller would be a capital project and run in the millions for the cost of the asset, costs of design and major construction for installation.

Pros:

- A new asset would operate as a new asset and therefore theoretically be without operational issues.

Cons:

- Actual costs are unknown but are likely to be in the millions to purchase a new asset.
- Lengthy installation time and disruption to the existing operations at SEA.
- Continued unavailability during the construction/installation timeframe.
- Lack of available cooling to SEA customers and operations.
- Equipment like this is not “on the shelf” and would need to be designed and manufactured specifically for SEA.
- Compatibility issues with the existing system may be challenging.

This is not the recommended alternative.

Alternative 3 – Approve the requested funds so that we may start work as soon as possible.

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Cost Implications: Request \$500,000 to fix Chiller 6 and return it to service.

Pros:

- The estimated repairs have already been identified, by the manufacturer of the asset.
- Confidence is HIGH on repairs needed.
- Partial funding has already been approved.
- A plan is already in place to proceed with repairs.

Cons:

- This request is for \$500,000.

This is the recommended alternative.

FINANCIAL IMPLICATIONS

Cost Estimate/Authorization Summary Capital Expense Total

COST ESTIMATE

Original estimate \$0 \$150,000 \$150,000

Current change \$0 \$350,000 \$350,000

Revised estimate \$0 \$500,000 \$500,000

AUTHORIZATION

Previous authorizations \$0 \$0 \$0

Current request for authorization \$0 \$500,000 \$500,000

Total authorizations, including this request \$0 \$500,000 \$500,000

Remaining amount to be authorized \$0 \$0 \$0

Annual Budget Status and Source of Funds

Financial Analysis and Summary

Project cost for analysis

Business Unit (BU)

Effect on business performance

(NOI after depreciation)

IRR/NPV (if relevant)

CPE Impact

ATTACHMENTS TO THIS REQUEST

None

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

None

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