



**COMMISSION  
AGENDA MEMORANDUM**

**Item No.** 8p

**ACTION ITEM**

**Date of Meeting** March 8, 2022

**DATE:** December 17, 2021

**TO:** Stephen P. Metruck, Executive Director

**FROM:** Daniel Alter, AVM Manager  
Louis Ekler, AVM Assistant Fleet Manager

**SUBJECT: Airfield Snow Equipment Replacement CIP 801227**

**Amount of this request:** \$8,620,000.00

**Total estimated project cost:** \$8,620,000.00

**ACTION REQUESTED**

Request Commission authorization for the Executive Director to execute one or more procurements to replace Airfield snow removal equipment. The total value of the procurement is estimated at \$8,620,000.

**EXECUTIVE SUMMARY**

Effective snow removal on the SEA airfield is critical for the safe and successful operation of the Airport. To execute snow removal effectively, appropriate snow removal equipment is essential. The equipment provided through this procurement process will replace existing equipment that is over 30 years old as well as additional equipment to expand our ramp and cargo area snow fleet. The new equipment will be specified to better meet SEA's operational requirement to keep the ramp movement and cargo areas clear. In the past, we have sourced the ramp removal teams with aging equipment that has been repurposed from the airfield removal teams.

**JUSTIFICATION**

During a snow event the primary focus is maintaining a safe and functional surface within the control area, which includes the runways and taxiways. Snow removal in control areas is critical to maintaining the airport's flight acceptance rate (Number of aircraft that can land). In normal snow removal operations, the Aviation Maintenance Team uses two airfield snow removal teams and a single snow removal team for the ramp area (non-control area).

Snow events have shown that a single ramp team is not sufficient, and increased ramp snow removal capacity would lead to increased operational efficiency during a snow event. The

Meeting Date: March 8, 2022

additional equipment will allow the ramp snow removal team to respond quickly when needed increasing the airports ramp acceptance rate (Number of aircraft that make it to gate or park).

When the airport's acceptance rate exceeds the ability to accommodate flights at gates (Ramp acceptance rate), holds for gates occur and aircraft that have landed park and wait for a gate. This condition degrades the efficiency of the airport as hold times for gates compound throughout a day.

As SEA grows both domestically and internationally, widebody aircraft flights will increase. Widebody aircraft have limited possible gate accommodations due to their size. Along with aircraft size comes high passenger counts. These factors further support the need to remove snow as rapidly as possible.

The ability to maintain airport flight operations is critically dependent on the acceptance rate of flights, for both the control and non-control areas of the airport. The ability to remove snow at a rate that maintains the accommodation of aircraft arrivals on gates supports the procurement of this snow equipment.

These combination systems will serve the AOA area from Cargo 1 to Cargo 7 including ramps and nonmovement areas. This style of equipment will more effectively utilize operators allowing for a second team with minimal snow staffing increases.

### ***Diversity in Contracting***

We have worked with Diversity and Contracting regarding this procurement and subcontracting for this product is not feasible. When we are in the process of procuring, we will notify a broad range of firms that may be able to provide the product.

### **DETAILS**

This procurement includes eleven (11) items of ramp and airfield snow equipment. It will provide eight (8) systems for the ramp snow removal team. This will allow the snow removal team to deploy two ramp snow removal teams as opposed to the single team currently utilized. Displacing aging equipment with more compact plow and broom combination systems that are purpose built for the mission will enhance snow removal performance on the ramp.

This project will replace three (3) aging snow blowers that are a part of the airfield removal team with two (2) new high speed snow blower systems. The three 30-year-old snow blower systems are difficult to maintain due to their age and cannot keep pace with the removal teams.

The final element in this procurement will be to replace a 30-year-old 4,000-gallon airfield deicer truck with a new 4,000-gallon system. The current truck and system are aged and have become more challenging to keep in service. Our airfield deicer trucks get the most use of any

Meeting Date: March 8, 2022

of our systems. The deicer trucks are the first and last systems used during winter operations and are critical assets.

All this equipment will run on renewable diesel, follows the Fleet Sustainability guidelines and aligns the port to meet Century Agenda goals related to emissions standards while minimizing total cost of ownership.

**Schedule**

*Activity*

Commission authorization	2022 Quarter 1
Procurement	2022 Quarter 2
Equipment Arrives	2023 Quarter 2
In-use date	2023 Quarter 3

**ALTERNATIVES AND IMPLICATIONS CONSIDERED**

**Alternative 1 – Alternative Replacement Strategy**

Procure four (4) compact plow and broom systems, two (2) high speed blowers, and one airfield deicer truck.

Currently we have 12 pieces of ramp snow removal equipment that are obsolete. This would refresh half of the obsolete equipment but would not increase operational ability. Initial cost would be less as less equipment is being procured.

Cost Implications: \$5,420,000

Pros:

- (1) Lower initial cost
- (2) Replaces current ramp team setup with compact plow and brooms reducing needed operators
- (3) Replaces equipment that is past useful life

Cons:

- (1) No increase to ramp team capacity that currently is not adequate
- (2) Does not add capacity for cargo areas

This is not the recommended alternative.

**Alternative 2 – Alternative Replacement Strategy #2**

Procure the 11 request items of ramp and airfield snow equipment over two years.

Cost Implications: Year One: \$3,560,000 Year Two: \$5,060,000

Pros:

- (1) Spread’s cost of equipment over multiple years

Meeting Date: March 8, 2022

- (2) Replaces equipment that is past useful life
- (3) Allows for two ramp teams to address ramp removal issues

Cons:

- (1) This would extend snow equipment replacement through mid-year 2024 stretching current equipment beyond useful life
- (2) Additional capacity not available until after 2024
- (3) Reallocation of staff from AVM and Operations to support two ramp teams
- (4) Equipment cost may increase from inflation and create a need for a future budget request by (5-10%)

This is not the recommended alternative.

**Alternative 3** – Purchase the 11 items of ramp and airfield snow equipment at one time in the same budget year.

Procuring (8) compact plow and broom, (2) blowers, and one airfield deicer truck.

Cost Implications: \$8,620,000

Pros:

- (1) Equipment beyond useful life would be replaced in 2023
- (2) Allows for two ramp teams to address ramp removal issues
- (3) Gaining capacity to handle cargo areas
- (4) Combo units will allow for more efficient use of operators

Cons:

- (1) Cost of equipment
- (2) Reallocation of staff from AVM and Operations to support two ramp teams

***This is the recommended alternative.***

**FINANCIAL IMPLICATIONS**

***Cost Estimate/Authorization Summary***

Capital

Expense

Total

	Capital	Expense	Total
<b>COST ESTIMATE</b>			
Original estimate	\$8,620,000	\$0	\$8,620,000
<b>AUTHORIZATION</b>			
Previous authorizations	0	0	0
Current request for authorization	\$8,620,000	0	\$8,620,000
Total authorizations, including this request	\$8,620,000	0	\$8,620,000
Remaining amount to be authorized	\$0	\$0	\$0

Meeting Date: March 8, 2022

***Annual Budget Status and Source of Funds***

This project, CIP 801227, was included in the 2022-2026 capital budget and plan of finance with a budget of \$8,620,000. The funding source will include existing revenue bonds.

Aviation Maintenance does not anticipate any significant increase in operating expense as a result of this procurement. The total number of pieces of equipment will be similar to the existing fleet.

***Financial Analysis and Summary***

Project cost for analysis	\$8,620,000
Business Unit (BU)	Airfield Movement Area
Effect on business performance (NOI after depreciation)	NOI after depreciation will increase due to inclusion of capital (and operating) costs in airline rate base.
IRR/NPV (if relevant)	N/A
CPE Impact	\$.05 in 2023

**ATTACHMENTS TO THIS REQUEST**

- 1) Presentation