COMMISSION AGENDA
ACTION ITEM

Item No.   5a

Date of Meeting   April 1, 2014

DATE: March 24, 2014

TO: Tay Yoshitani, Chief Executive Officer

FROM: Stan Shepherd, Manager, Airport Noise Programs

SUBJECT: Airport Noise and Operations Monitoring System Replacement (CIP #C800608)

Amount of This Request:	$1,900,000	**Source of Funds:**	100% Airport Development Fund
Est. Total Project Cost:	$1,900,000		
Est. State and Local Taxes:	$47,500		

ACTION REQUESTED

Request Commission authorization for the Chief Executive Officer to (1) proceed with the Airport Noise and Operations Monitoring System Replacement project; (2) authorize the procurement of required hardware, software, and vendor services; and (3) authorize Port staff to implement the project; for a total project cost not to exceed $1,900,000.

SYNOPSIS

As a function of the Aviation Community Partnerships Department, the Noise Programs Office operates a noise and operations monitoring system to ensure airline compliance with noise abatement procedures, investigate citizen inquiries, and provide information to the public, airline partners and the Federal Aviation Administration (FAA). Noise monitors located throughout the region record sound levels which are correlated with flight track data to provide information for the Annual Fly Quiet Awards program and assist with updating the Port's website. Implemented in 1999, the noise monitors and computer servers are past the vendor's published "end of life." The recently updated Federal Aviation Regulation (FAR) Part 150 Noise and Land Use Compatibility Study, which is currently under FAA final review, considered the current technology in use and identified a need for replacement of the noise monitors and flight tracking system in the study recommendations.

This project will replace aging software, hardware, and noise monitors to ensure availability of systems critical to Sea-Tac Noise Programs. Information Communication Technology (ICT), Aviation Maintenance, Aviation Community Partnerships, and Port Construction Services (PCS) resources will be utilized to complete the project. Total project costs are estimated to be $1,900,000. This project was included in the 2014 – 2018 capital budget and plan of finance. Recurring software license and maintenance costs will be budgeted within the ICT Department

operating budget. Replacement parts for monitors will be budgeted in the annual Aviation Community Partnerships operating budget.

BACKGROUND

The Noise Programs Office was created in 1985 as a result of the initial Federal Aviation Regulation (FAR) Part 150 Noise Study. The current noise monitoring system was implemented in 1999 and includes 24 physical noise monitors and Bruel & Kjaer Airport Noise and Operations Management Software (ANOMS). In 2003, a Bruel & Kjaer application was added to the Port of Seattle website that enables the public to independently investigate the noise levels of individual flights. Aircraft noise levels are recorded by the noise monitors, processed overnight, and then uploaded to the software system. Four of the monitors also record weather information to analyze meteorological conditions. The software system displays flight tracks from various data and radar feeds, includes inquiry and management tools, and generates reports.

The Noise Programs Office uses the system to manage citizen complaints, comments and requests for information, which arrive in the form of phone calls or email. Requests are investigated using the software system which superimposes the location identified in the inquiries onto the system's flight tracking map. A correlation of the flight track and event time is used to determine a specific flight operation that may have prompted contact with the Noise Programs Office. Noise staff responds to inquiries with specific aircraft operation details but response time is at least 24 hours or more after the noise event due to the overnight processing required by the outdated noise monitors. All complaints and comments from the public are reported to the FAA.

The data received from the noise monitors is not used to produce the Part 150 annual Day Night Level (DNL) noise contours, since the FAA requires that DNL contours be prepared using data from their Integrated Noise Modeling (INM) software, which does not allow for field noise monitoring data (produced by noise monitors) as an input variable. Upgrading the system will have no impact on the recently updated DNL contours for the Part 150.

The Noise Programs Office also manages a program that provides annual feedback to the airlines operating at Sea-Tac regarding compliance with noise abatement requirements. The Fly Quiet Awards program was established in 2003 to increase airline awareness of the impact of aircraft noise on local communities. This incentive-based competition among airlines evaluates noise reduction efforts by analyzing three categories: single event noise, noise abatement flight procedures, and adherence to engine run-up regulations.

Finally, Noise Programs Office staff meet monthly with the FAA to discuss airline adherence to the noise abatement procedures and a monthly noise abatement procedures report, compiled with data from ANOMS, is presented to the FAA that highlights aircraft flight paths that failed to comply with each procedure.

PROJECT JUSTIFICATION AND DETAILS

Issues with aging equipment and software cause information gaps for reporting and responding to public inquiries, limiting the Port's ability to support programs important to our community, the airlines, and the FAA.

- In the past two years we have had over 110 issues related to equipment or connectivity failures requiring frequent on-site maintenance. Bruel & Kjaer stopped production of our 15 year old noise monitors 5 years ago, making replacement parts difficult to locate.
- There have been 3 major system failures in the past 12 months, each time requiring a lengthy data recovery process and compromising our ability to ensure accurate, timely information. In 2012, there were four months of either compromised or unrecoverable data due to system issues.
- Approximately 40% of a Noise Programs Office staff resource is required to address system issues and administration. A significant improvement in system performance will reduce that time to 20%.
- The system server is unsupported by the manufacturer and the server operating system will be unsupported by 2015.

Project Objectives

- Ensure the Sea-Tac Noise System will support critical airport programs by replacing hardware and software beyond its useful life.

Scope of Work

- Procure and install a noise monitoring system that includes new noise collection devices, analysis software, a public-facing website, and management system to track inquiries and generate information for required reports and community engagement materials.
- Improve infrastructure at monitor locations, if needed to support new technology.

Schedule

Commission Approval	April 2014
Procurement Complete	September 2014
Installation Complete	August 2015

FINANCIAL IMPLICATIONS

Budget/Authorization Summary	Capital	Expense	Total Project
Original Budget	$2,000,000	$0	$2,000,000
Budget reduction	-$100,000		-$100,000
Revised budget	$1,900,000		$1,900,000
Previous Authorizations	$0	$0	$0
Current request for authorization	$1,900,000	$0	$1,900,000

Total Authorizations, including this request	$1,900,000	$0	$1,900,000
Remaining budget to be authorized	$0	$0	$0
Total Estimated Project Cost	$1,900,000	$0	$1,900,000

Project Cost Breakdown	This Request	Total Project
Hardware	$500,000	$500,000
Vendor Services	$760,000	$760,000
Port Resources	$279,500	$279,500
Contingency 20%	$313,000	$313,000
State & Local Taxes (estimated)	$47,500	$47,500
Total	$1,900,000	$1,900,000

Training costs, estimated at $18,000, will be budgeted in the Aviation Division Operating Budget.

Budget Status and Source of Funds

This project was included in the 2014-2018 capital budget and plan of finance as a $2,000,000 business plan prospective project within CIP #C800608, Noise System Replacement. The budget reduction will be transferred to the Aeronautical Allowance CIP (C800404), resulting in no change to the Airport capital budget. The source of funds is the Airport Development Fund.

Financial Analysis and Summary

CIP Category	Renewal/Enhancement
Project Type	Technology
Risk adjusted discount rate	N/A
Key risk factors	N/A
Project cost for analysis	$1,900,000
Business Unit (BU)	Airfield Movement Area Cost Center
Effect on business performance	N/A
IRR/NPV	N/A
CPE Impact	$.03 in 2016; no change from business plan forecast as this project was included in the plan.

Lifecycle Cost and Savings

Software license and maintenance fees of $200,000 are currently budgeted in the ICT operating budget. Total costs to maintain the system including estimated license and maintenance fees, as well as Port recurring labor costs are not expected to change significantly with this project.

STRATEGIES AND OBJECTIVES

This project supports the Century Agenda strategy to advance this region as a leading tourism destination and business getaway, by ensuring the availability of systems that support important

programs that are critical to airline expansion at Sea-Tac. This project also supports the Aviation Division strategy to maintain community partnerships and socially responsible practices.

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1) – Replace the noise monitors and upgrade the current system software. In the fifteen years since our current software was selected, other vendors have developed competing products that should be evaluated to ensure that the Port has implemented the best solution to address public inquiry responses, generate reports and produce information for required FAA reporting. This is not the recommended alternative. The project manager will coordinate with the Office of Social Responsibility to identify small business opportunities.

Alternative 2) – Maintain the existing system. The increase in number of equipment and software failures will continue to impact the Port's ability to provide accurate information to the public, the FAA, and other entities that rely on our data. This is not the recommended alternative.

Alternative 3) – Procure a noise monitoring system through a competitive process. Procuring a noise monitoring system through a competitive process will allow the team to compare products and services currently available in the market. A replacement of the aging noise system will ensure the availability of a system that supports our important community programs and FAA mandated reporting requirements. **This is the recommended alternative.**

ATTACHMENTS TO THIS REQUEST

- None.

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

- None.