

**SOUND TRANSIT  
STAFF REPORT**

**MOTION NO. M2008-48**

**Contract to Purchase and Install Locomotive Automatic Electronic Start/Stop System**

<b>Meeting:</b>	<b>Date:</b>	<b>Type of Action:</b>	<b>Staff Contact:</b>	<b>Phone:</b>
Finance Committee	5/1/08	Discussion/Possible Action to Recommend Board Approval	Bonnie Todd, Director, Transportation Services Martin Young, Program Manager, Sounder Operations	(206) 398-5367 (206) 398-5115
Board Meeting	5/8/08	Action	<b>Weylin Doyle</b> <b>O &amp; M Project Manager</b> <b>Sounder Operations</b>	<b>(206) 398-5442</b>

<b>Contract/Agreement Type:</b>	<input checked="" type="checkbox"/>	<b>Requested Action:</b>	<input checked="" type="checkbox"/>
Competitive Procurement		Execute New Contract/Agreement	<input checked="" type="checkbox"/>
Sole Source	<input checked="" type="checkbox"/>	Amend Existing Contract/Agreement	
Agreement with Other Jurisdiction(s)		Budget Amendment	
Real Estate		Property Acquisition	

**PROJECT NAME**

Sounder Commuter Rail Fleet Program

**PROPOSED ACTION**

Authorizes the chief executive officer to execute a sole source contract with Rail Systems, Inc. to provide locomotive automatic engine start/stop system application, equipment and installation services for the Sounder Fleet Program in the amount of \$209,633, with a 10% contingency of \$20,963, for a total authorized contract amount not to exceed \$230,596.

**KEY FEATURES of PROPOSED ACTION**

- The proposed action will authorize the purchase and installation of the Automatic Engine Start/Stop (AESS) system for the eleven Sounder locomotives.
- AESS will allow Sounder locomotives to save fuel by automatically shutting down the engine when conditions warrant.
- Implementation of AESS will provide significant fuel savings as well as environmental benefits of reduced emissions and noise reduction.
- The Puget Sound Clean Air Agency is contributing \$100,000 in grant funding to this project as it will contribute toward the objective of reducing the consumption of fuel with its associated reduction in pollution and greenhouse gas emissions.

**BUDGET IMPACT SUMMARY**

There is no action outside of the Board-adopted budget; there are no contingency funds required, no subarea impacts, or funding required from other parties other than what is already assumed in the financial plan.

## **BUDGET and FINANCIAL PLAN DISCUSSION**

The proposed action would authorize the acquisition and installation of automatic engine start/stop equipment in the amount of \$230,596. This item is a capital cost and was included in the 2008 Sounder fleet program budget (project #702).

The Puget Sound Clean Air Agency has designated \$100,000 of grant funding for this Sounder project. The grant will cover nearly half the cost to implement the program.

### **BUDGET TABLE**

The Sounder Fleet Program (#702) was included in the Adopted 2008 Budget on page 72 of the budget book. The impacts of the proposed action on the project budget are illustrated below:

#### Summary for Board Action (Year of Expenditure \$000)

Action Item: Purchase equipment and install Automatic Engine Start Stop (AESS) Units from Rail Systems, Inc. for Sounder Fleet Program.

	Current Board Adopted Budget <sup>1</sup> (A)	Committed To Date <sup>2</sup> (B)	This Action <sup>3</sup> (C)	Total Committed & Action (D)	Uncommitted (Shortfall) (E)
1 Agency Administration	-	-	-	-	-
2 Pre-Engineering	-	-	-	-	-
3 Final Design	-	-	-	-	-
4 Right of Way	-	-	-	-	-
5 Construction	-	-	-	-	-
6 Vehicles	2,434	1,693	231	1,923	511
7 Contingency	-	-	-	-	-
8 Total Current Budget	2,434	1,693	231	1,923	511

#### Phase Budget Detail By Subarea

8 Snohomish County	772	499	68	567	205
9 South King County	869	657	89	746	123
10 East King County	-	-	-	-	-
11 Pierce County	793	537	73	610	183
12 Total Phase	2,434	1,693	231	1,923	511

Contract Budget	Current Approved Contract Value	Spent to Date	Proposed Action	Proposed Total Contract Value
Rail Systems, Inc	\$ -	\$ -	\$ 210	\$ 210
ST Contingency	-	-	21	21
Total	-	-	231	231
Percent Contingency	N/A	N/A	10%	10%

#### Notes

<sup>1</sup> Project budget is located on Page 72 of the Adopted 2008 Budget Book.

<sup>2</sup> Committed to date represents spending and commitments approved by the Board through April 2008.

<sup>3</sup> This action would commit to an acquisition and installation of 11 Automatic Engine Start Stop Units

## **SOLE SOURCE JUSTIFICATION**

Rail Systems, Inc. (RSI) is the only provider of a start/stop system that is compatible with our locomotives.

## **SMALL BUSINESS PARTICIPATION**

RSI is the prime contractor for this sole source procurement and will be performing 100% of the work.

## **EEO COMMITMENT**

RSI's workforce demographics are 9% women and 25% minorities. RSI is committed to uphold and enforce all applicable state and federal EEO rules and regulations.

## **PROJECT DESCRIPTION and BACKGROUND for PROPOSED ACTION**

As part of the Sounder Operations effort to maximize environmental performance by adopting sustainable business practices, several initiatives are being pursued to achieve our objectives. They include initiatives such as installing wayside power at the layover facilities, replacing head end power engines with the environmentally friendly Tier 2 engines, and monitoring the application within the industry of bio-fuel technologies. Recent discussions with industry peers and our manufacturer's representative have provided a confirmation that the opportunity with the greatest return will be to take advantage of recent technology advances to reduce engine idling time through the use of an Automatic Engine Start/Stop (AESS) system provided by Rail Systems, Inc (RSI).

AESS is a system which reduces idling time by intelligently powering down and restarting the locomotive diesel engine if necessary, thus saving fuel and reducing emissions. The system monitors the overall condition of the locomotive by assessing certain parameters such as outside air temperature, engine water temperature, air brake pressure, and battery condition. Once the system has identified that conditions are proper for shut down and battery health is viable for restart, it will automatically power down the locomotive. If conditions deteriorate and the locomotive is at risk of not restarting with any of these parameters being outside of acceptable, the system will automatically restart the locomotive.

This action will advance Sound Transit's objectives in reducing impacts to the environment in conducting business. Estimates of the annual benefits from this action at Sounder full build-out are summarized in the table below:

### **Sounder Annual Emission Reduction with AESS**

<b><i>Emission</i></b>	<b><i>Pounds</i></b>
Nitrogen Oxide (NOx)	31,142
Particulate Matter (PM)	806
Carbon Monoxide (CO)	3,135
Hydrocarbons (HC)	3,524
Carbon Dioxide (CO2)	1,820,623

In addition to the cost and fuel savings issues, it is important to point out that noise pollution will be greatly reduced in the areas of locomotive layover, with a 34% estimated reduction in engine idling time. It should also be noted that because the engine will be running less, there will be corresponding life cycle cost savings from a reduction in the hours of operation.

### **CONSEQUENCES of DELAY**

Significant cost savings will be achieved with this program; a delay in its implementation will result in a delay in the benefits received. The Puget Sound Clean Air Agency is granting Sound Transit \$100,000 in funding for this project, and would like expenditures to begin by June 2008.

### **PUBLIC INVOLVEMENT**

Not applicable to this action.

### **ENVIRONMENTAL COMPLIANCE**

SSK 4/15/08

### **LEGAL REVIEW**

JW 4/24/08

## SOUND TRANSIT

### MOTION NO. M2008-48

A motion of the Board of the Central Puget Sound Regional Transit Authority authorizing the chief executive officer to execute a sole source contract with Rail Systems, Inc. to provide locomotive automatic engine start/stop system application, equipment and installation services for the Sounder Fleet Program in the amount of \$209,633, with a 10% contingency of \$20,963, for a total authorized contract amount not to exceed \$230,596.

#### **Background:**

As part of the Sounder Operations effort to maximize environmental performance by adopting sustainable business practices, several initiatives are being pursued to achieve our objectives. They include initiatives such as installing wayside power at the layover facilities, replacing head end power engines with the environmentally friendly Tier 2 engines, and monitoring the application within the industry of bio-fuel technologies. Recent discussions with industry peers and our manufacturer's representative have provided a confirmation that the opportunity with the greatest return will be to take advantage of recent technology advances to reduce engine idling time through the use of an Automatic Engine Start/Stop (AESS) system provided by Rail Systems, Inc (RSI).

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#### **Sounder Annual Emission Reduction with AESS**

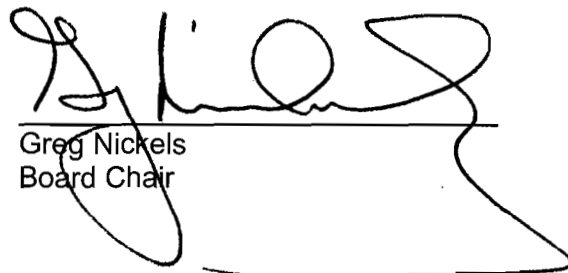
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**Motion:**

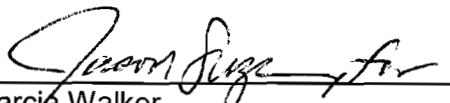
It is hereby moved by the Board of the Central Puget Sound Regional Transit Authority that the chief executive officer is authorized to execute a sole source contract with Rail Systems, Inc. to provide locomotive automatic engine start/stop system application, equipment and installation services for the Sounder Fleet Program in the amount of \$209,633, with a 10% contingency of \$20,963, for a total authorized contract amount not to exceed \$230,596.

APPROVED by the Board of the Central Puget Sound Regional Transit Authority at a regular meeting thereof held on May 8, 2008.



Greg Nickels  
Board Chair

ATTEST:



Marcia Walker  
Board Administrator