

**SOUND TRANSIT
STAFF REPORT**

MOTION NO. M2007-92

Contract to Purchase and Install New Locomotive Head End Power Units

Meeting:	Date:	Type of Action:	Staff Contact:	Phone:
Finance Committee	8/16/07	Discussion/Possible Action	Ellen Gustafson, Acting Director, Transportation Services Martin Young, Program Manager, Sounder Operations Weylin Doyle O & M Project Manager Sounder Operations	(206) 398-5094 (206) 398-5115 (206) 398-5442

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

PROJECT NAME

Sounder Commuter Rail Fleet Program

PROPOSED ACTION

Authorizes the chief executive officer to execute a contract with NC Power Systems to provide equipment and installation services for the Sounder Fleet Program in the amount of \$1,404,390, with a 10% contingency of \$140,439, for a total authorized contract amount not to exceed \$1,544,829.

KEY FEATURES of PROPOSED ACTION

- The proposed action would authorize the purchase of twelve Caterpillar Model C18 Head End Power (HEP) generator systems for installation into Sounder's eleven locomotives, with one remaining as a spare.
- The new HEP units, which generate electricity for the passenger cars, will ensure passengers on Sounder are provided with uninterrupted air conditioning, heating and lights.
- The existing HEP units being replaced were procured as part of the original locomotive order from EMD (Electro-Motive Division of General Motors) and are reaching the end of their useful life, with some having been in use for over eight years.
- The new HEP equipment is "Tier 2" compliant, that is, they use technology that results in a more environmentally friendly emission output.
- As this new equipment is a long lead item, the procurement and installation of the HEPs will take place over the next year and one half, beginning with those engines having the most hours of usage and including the two locomotives currently under lease with transit agencies.

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 of Head End Power (HEP) units in the amount of \$1.5 million. This item is a capital cost as a major spare parts acquisition and is funded out of the Sounder Fleet Program budget (project #702).

The Adopted 2007 Budget included a total project budget of \$2.4 million for major maintenance and spare parts purchases in support of the Sounder fleet. Spending to date against this project budget is approximately \$148,000. Upon adoption of the proposed action, a total of \$0.7 million would remain in this project budget.

BUDGET TABLE

The Sounder Fleet program (project #702) was included on Page 70 of the Adopted 2007 Budget with a project budget of \$2.4 million. 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 Head-End Panel (HEP) Units from NC Power Systems for Sounder Fleet Program.

	Current Board Adopted Budget ¹ (A)	Committed To Date ² (B)	This Action ³ (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	148	1,545	1,693	741
7 Contingency	-	-	-	-	-
8 Total Current Budget	2,434	148	1,545	1,693	741

Phase Budget Detail By Subarea

8 Snohomish County	772	43	456	499	273
9 South King County	869	58	599	657	212
10 East King County	-	-	-	-	-
11 Pierce County	793	47	490	537	256
12 Total Phase	2,434	148	1,545	1,693	741

Contract Budget	Current Approved Contract Value	Spent to Date	Proposed Action	Proposed Total Contract Value
NC Power Systems	\$ -	\$ -	\$ 1,404	\$ 1,404
ST Contingency	-	-	140	140
Total	-	-	1,545	1,545
Percent Contingency	N/A	N/A	10%	10%

Notes

¹ Project budget is located on Page 70 of the Adopted 2007 Budget Book, as adopted by the Board on December 14, 2007.

² Committed to date represents commitments approved by the Board through July 2007.

³ This action would commit to an acquisition and installation of 11 HEP units plus one spare unit for Sounder locomotives.

SMALL BUSINESS PARTICIPATION

- NC Power Systems is a firm with 139 employees and will be performing all of the work involved in this project. Due to the technical nature of these locomotive head end power units, subcontracting was determined to be infeasible and/or improbable.

Prime Consultant/Contractor

- NC Power Systems has an 8% minority and 8% woman workforce.

PROJECT DESCRIPTION and BACKGROUND for PROPOSED ACTION

Sounder is replacing the Head End Power (HEP) units on all eleven owned Sounder locomotives. The HEP is a separate engine mounted in the rear of the locomotive which turns a small generator to supply electricity for air conditioning, heat and other control systems in all of the coach cars. The existing Caterpillar built HEP sets are at an average of 26,000 hours of operation. Although the manufacturer's recommended replacement is at 15,000 hours, it has been the experience for most transit agencies to replace the HEPs with about 30,000 hours.

Sound Transit issued a Request for Proposals on May 23, 2007. Of the proposals received and evaluated, NC Power Systems was selected on August 3, 2007 to provide the HEP units.

Sounder's current HEPs are a Tier 1 compliant engine. Current Environmental Protection Agency regulations require off road engines to comply with Tier 2 requirements, which allow emission of significantly fewer air pollutants than Tier 1 engines. A Tier 1 engine cannot be upgraded to a Tier 2 compliant engine; it must be replaced. There is a significant difference between the pollution output of a Tier 2 vs. a Tier 1 engine. In this case, Sounder will generate 69% less carbon monoxide, 39% less combined hydro-carbons and nitrous oxide, and 60% less particulate matter.

Sound Transit has made a decision to procure the new generation Tier 2 engines, consistent with the Agency's Environmental Policy and Sustainability Initiative. The Tier 2 requirement is only for new engines, so Sound Transit had the option of rebuilding these engines according to the older Tier 1 standard but chose not to in order to take advantage of the opportunity to have a positive impact on the environment with improved exhaust emissions.

Tier 1 Emissions: (Current Units – grams per horsepower-hour)

CO:	11.4	(Carbon Monoxide)
HC:	1.3	(Hydro-Carbons)
NOx:	9.2	(Nitrogen Oxide)
PM:	0.5	(Particulate Matter)

Tier 2 Emissions: (New Proposed Units – g/hp-hr)

CO:	3.5	(Carbon Monoxide)
NOx + HC:	6.4	(Nitrogen Oxide + Hydro Carbons)
PM:	0.2	(Particulate Matter)

CONSEQUENCES of DELAY

Current HEPs are reaching the end of their useful life; delaying this procurement may increase the risk of engine failures in existing service.

PUBLIC INVOLVEMENT

Not applicable to this action.

ENVIRONMENTAL COMPLIANCE

PW 8/9/07

LEGAL REVIEW

JW 8/9/07

SOUND TRANSIT

MOTION NO. M2007-92

A motion of the Finance Committee of the Central Puget Sound Regional Transit Authority authorizing the chief executive officer to execute a contract with NC Power Systems to provide equipment and installation services for the Sounder Fleet Program in the amount of \$1,404,390, with a 10% contingency of \$140,439, for a total authorized contract amount not to exceed \$1,544,829.

Background:

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NOx + HC:	6.4	(Nitrogen Oxide + Hydro Carbons)
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Motion:

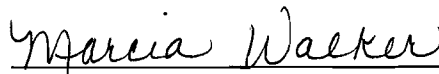
It is hereby moved by the Finance Committee of the Central Puget Sound Regional Transit Authority that the chief executive officer is authorized to execute a contract with NC Power Systems to provide equipment and installation services for the Sounder Fleet Program in the amount of \$1,404,390, with a 10% contingency of \$140,439, for a total authorized contract amount not to exceed \$1,544,829.

APPROVED by the Finance Committee of the Central Puget Sound Regional Transit Authority at a regular meeting thereof held on August 16, 2007.



Fred Butler
Finance Committee Chair

ATTEST:



Marcia Walker
Board Administrator