

To: A&F Committee

Date: March 2, 2015

From: J. Scott Mitchell
Director of Maintenance

Reviewed by:

SUBJECT: Authorization for the General Manager to direct Gillig and BAE Systems to Proceed with Detailed Mechanical Design of Walnut Creek Trolleys

BACKGROUND:

At the September 10, 2014 Board of Directors' meeting, the Board authorized the General Manager to release a purchase order to Gillig Corporation for construction of four (4) chassis for the electric trolley project. At that time, staff was still researching power options for this project.

SUMMARY OF ISSUES:

After researching multiple options and manufacturers to do this work, County Connection staff and Gillig have determined that BAE Systems will be the best option for this project.

BAE SYSTEMS

Production HybriDrive Series-E hybrid has all the required components for an electric vehicle:

- Delete Engine/Generator, replace hybrid battery with larger battery
- Everything else stays the same: Traction Motor, Inverter, APS, SCU and accessories

4500 fielded Series Hybrid Electric systems with over 600 million revenue service miles.

Selected by IVECO as systems integrator for Paris Hybrid and electric vehicle bus program with three (3) different ESS solutions and three (3) different charging solutions.

Working with inductive charging supplier IPT, on an Alexander Dennis project in the UK.

Buy America Compliant System.

Engineering Depth and Capability:

- Hybrid Drive Systems Group – 250 full-time employees. 100 which are engineering
- Extensive dynamometer cells, engineering labs and vehicle integration facilities
- Extensive vehicle integration experience including simulation capabilities
- Direct access to the range and depth of BAE Systems corporate resources
- Established service and support capabilities through the production HEV product line

This system will utilize medium size battery and charge inductively at a low rate. This will:

- Optimize battery life
- Driving range margin maintained throughout the day and life of the battery
- No moving parts on inductive system
- Non-obtrusive charging infrastructure piece

FINANCIAL IMPLICATION:

Preliminary cost to add electric drive.
Per vehicle:

\$549,992
 4
\$2,199,968

Adjusted chassis cost per vehicle:	\$416,830
	<u> 4</u>
	\$1,667,320
Cost to add electrical drive to chassis:	\$549,992
Total cost per bus:	\$966,372
	<u> 4</u>
	\$3,865,488
Federal Grant CA588-0018:	\$4,320,000
Local Match:	<u>\$864,000</u>
	\$5,184,000

County Connection has \$5,184,000 to fund four (4) buses and infrastructure for this project.

The chassis have already been competitively bid on County connection RFP #2012-MA-02.

RECOMMENDATIONS:

The A&F Committee recommend that the Board of Directors at its March 19, 2015 meeting, adopt a resolution authorizing the General Manager to release a purchase order to the Gillig Corporation for the purchase of four (4) electric trolleys. Cost not to exceed \$4,212,860. Contingent on approval from the Federal Transit Administration (FTA).