


BOARD MEETING DATE: November 6, 2015

AGENDA NO. 3

PROPOSAL: Execute Contract to Cosponsor Study on Opportunities and Benefits of Deploying Next Generation Heavy-Duty Natural Gas Vehicles Operating on Renewable Natural Gas 

SYNOPSIS: A leading natural gas engine manufacturer is targeting mid-2016 to commercialize the first natural gas engine achieving 90% lower NOx emissions than the current emissions standard. In addition, renewable natural gas (RNG) is currently being produced in large volume for use as a transportation fuel. While the benefits of significantly cleaner combustion engines and the use of renewable fuels have been individually studied, there has been no comprehensive assessment focused specifically on the air quality benefits of having significantly lower NOx combustion engines operating on renewable fuels or the market potential for such deployment. This action is to execute a contract with Gladstein, Neandross & Associates to conduct such a study in an amount not to exceed \$100,000, comprised of \$50,000 from the Clean Fuels Fund (31) and \$50,000 from the Natural Gas Vehicle Partnership Fund (40).

COMMITTEE: Technology, October 16, 2015; Recommended for Approval

RECOMMENDED ACTION:

Authorize the Chairman to execute a contract with Gladstein, Neandross & Associates in an amount not to exceed \$100,000, comprised of \$50,000 from the Clean Fuels Fund (31) and \$50,000 from the Natural Gas Vehicle Partnership Fund (40), to conduct a study to characterize the strengths and opportunities for wide-scale commercial deployment of next generation heavy-duty engines fueled by RNG.

Barry R. Wallerstein, D.Env.
Executive Officer

MMM:HH

Background

The SCAQMD, CEC and Southern California Gas Company (Gas Company) are cosponsoring the development of the next generation of cleaner ultra low-NOx on-road heavy-duty combustion engines that achieve a 90 percent reduction in NOx emissions

compared to the current emissions standard. These “near-zero” emission engines will play a significant role for the region to attain federal ambient air quality standards. Cummins Westport Inc. (CWI), one of the contracted engine manufacturers, recently announced that the 8.9 liter heavy-duty natural gas engine will be commercialized in the mid-2016 timeframe. CWI plans to develop and commercialize two additional heavy-duty natural gas engines both achieving the 90 percent reduction level in the 2018 to 2023 timeframe.

Given the focus on climate change, the natural gas industry has been expanding its efforts to provide biomethane or renewable natural gas (RNG) to the transportation fuels market. Clean Energy, for example, is providing RNG to its customers in the South Coast region. Other entities such as CR&R and Waste Management Inc. are producing RNG at their transfer facilities and landfills, respectively. In addition, as a condition to be eligible for the state’s Greenhouse Gas Reduction Funds, CARB is requiring any vehicle deployment to use renewable fuels. As RNG use continues to increase, there is interest in further understanding the opportunities to introduce RNG as a transportation fuel and how RNG can be introduced into the natural gas pipeline.

While the two programs have been evaluated for their environmental benefits, there is no study focused specifically on the air quality benefits of having significantly lower NO_x combustion engines operating on renewable fuels or the market potential for such deployment. Consequently, a study has been proposed to characterize the strengths and opportunities for wide-scale commercial deployment of next generation heavy-duty engines fueled by RNG.

Proposal

This action is to execute a contract with Gladstein, Neandross & Associates (GNA) to conduct a study on the opportunities and benefits of deploying next generation heavy-duty natural gas vehicles operating on RNG. The study will take a closer look at the criteria pollutant and greenhouse gas benefits of ultra low-NO_x natural gas engines, the opportunities and cost to deploy such engines, and the market challenges. The study will also evaluate the market success of RNG and the future opportunities and challenges of increasing the use of RNG as a transportation fuel. The California Natural Gas Vehicle Partnership (CNGVP) had already been discussing conducting a similar study, but on a much smaller scale. At its August 11, 2015 meeting, the CNGVP Steering Committee approved cosponsoring the GNA study. The American Gas Association, Clean Energy and the Gas Company will also cosponsor the study.

Sole Source Justification

Section VIII.B.2 of the Procurement Policy and Procedure identifies four major provisions under which a sole source award may be justified. This request for sole source award is made under Section B.2.d(1): “Projects involving cost sharing by multiple sponsors.” The proposed study will be cosponsored by the American Gas Association, CNGVP, Clean Energy and the Gas Company.

Benefits to SCAQMD

The Air Quality Management Plan relies upon the accelerated implementation of advanced technologies within Southern California to achieve federal and state ambient air quality standards and further reductions in air toxic exposure. Conversion of diesel-powered vehicles to natural gas-powered vehicles can significantly reduce criteria pollutants, GHG emissions and the use of petroleum-based fuels. This proposed project is included in the *Technology Advancement Office Clean Fuels Program 2015 Plan Update* under “Fuels/Emissions Studies” in the category “Identify and Demonstrate In-Use Fleet Emissions Reduction Technologies & Opportunities.”

Resource Impacts

Total funding from the SCAQMD shall not exceed \$100,000, comprised of \$50,000 from the Clean Fuels Fund (31) and \$50,000 from the Natural Gas Vehicle Partnership Fund (40). Total project costs for this proposed study are \$250,000 as follows:

FUNDING ORGANIZATION	FUNDING AMOUNT	PERCENT
American Gas Association	\$50,000	20%
CNGVP	\$50,000	20%
Clean Energy	\$50,000	20%
Gas Company	\$50,000	20%
SCAQMD (<i>requested</i>)	\$50,000	20%
Total	\$250,000	100%

Sufficient funds are available from the Clean Fuels Fund, established as a special revenue fund resulting from the state-mandated Cleans Fuels Program. The Clean Fuels Program, under Health and Safety Code Sections 40448.5 and 40512 and Vehicle Code Section 9250.11, establishes mechanisms to collect revenues from mobile sources to support projects to increase the utilization of clean fuels, including the development of the necessary advanced enabling technologies. Funds collected from motor vehicles are restricted, by statute, to be used for projects and program activities related to mobile sources that support the objectives of the Clean Fuels Program.

In July 2014, the Board approved a two-year budget for the CNGVP, which includes up to \$100,000 for Professional and Specialized Services. There are sufficient funds in the Natural Gas Partnership Fund (40) to cover the cost of the proposed study.