

AGENDA ITEM NO. 1 H
COUNCIL MEETING 5/6/2010
APPROVED BY

DEPARTMENT DIRECTOR

CITY MANAGER

May 6, 2010

FROM: RENE A. RAMIREZ, Director 
Department of Public Utilities

BY: STEPHEN A. HOGG, Assistant Director 
Department of Public Utilities

SUBJECT: APPROVE AMENDMENT TO AGREEMENT WITH BKS ENERGY, FOR INCREASED SCOPE AS PART OF THE FEASIBILITY STUDY REGARDING THE CONSTRUCTION AND OPERATION OF A LIQUID NATURAL GAS GENERATION AND DISTRIBUTION FUEL FACILITY AT THE FRESNO/CLOVIS REGIONAL WASTEWATER RECLAMATION FACILITY (COUNCIL DISTRICT NO. 3) FOR A NET INCREASE OF \$ 43,875 AND AN ADDITIONAL 60 DAYS

RECOMMENDATION

Staff recommends the City Council approve an amendment to the contract with BKS Energy for increased scope as part of the Feasibility Study Regarding the construction of a Liquid Natural Gas (LNG) generation facility to be located at the Fresno-Clovis Regional Wastewater Reclamation Facility (RWRF).

EXECUTIVE SUMMARY

In January 2010, the City entered into an agreement with BKS Energy, for a feasibility study regarding the construction and operation of an LNG fuel generation and distribution facility to be located at the RWRF. Staff recommends amending the study to include the evaluation of potentially using bio methane in lieu or combination with natural gas at the facility. The results of the evaluation would help to position the City for funding grants to be used during the construction and/or operation of the facility. There may also be greenhouse gas reduction emission credits available for the project if bio methane is used. If approved this amendment would add \$43,875 to the contract and additional 60 days.

BACKGROUND

Currently the RWRF produces approximately 600-800 cubic feet per minute of bio methane. This bio methane may currently be combusted in three different devices; the power generation turbines, the hot water boiler, or the gas flare. In instances when the turbines and boiler are off line or excess gas is produced it is burned off in the flare. The use of the flare is essentially wasting the gas while producing greenhouse gas. The RWRF's storage capacity for gas is only a few hours of production capacity. The ability to convert the bio methane into LNG would nearly eliminate the need for the gas flare. The California Energy Commission (CEC) biannually offers grants for projects which will utilize renewable energy and reduce the reliance of fossil fuels. The addition of bio methane to the LNG facility could help secure one of the CEC grants.

The current contract with BKS Energy was to evaluate the economic, logistical, and technical feasibility of the construction and operation of an LNG fuel generation facility at the RWRF utilizing natural gas supplied by a pipeline.

Staff has identified the CEC grants as an additional funding source for the construction of the LNG facility. Therefore, staff would like to amend the contract with BKS Energy to include bio methane in the analysis and report.

A feasibility study is not considered a project under the California Environmental Quality Act (CEQA) therefore; no CEQA actions are required. The City Attorney has reviewed the amendment and approved it as to form.

The Council may approve the contract amendment in the amount of \$43,875 to BKS Energy, LLC. If the amendment is not approved, the feasibility study will be completed without including the benefits of bio methane.

FISCAL IMPACT

See Attached

FISCAL IMPACT STATEMENT

PROGRAM: LNG FEASIBILITY STUDY

<u>RECOMMENDATION</u>	<u>TOTAL OR CURRENT</u>	<u>ANNUALIZED COST</u>
Direct Cost	<u>\$43,875.00</u>	_____
Indirect Cost	<u>\$ 0.00</u>	_____
TOTAL COST	<u>\$43,875.00</u>	_____
Additional Revenue or Savings Generated	<u>\$ 0.00</u>	_____
Net City Cost	<u>\$43,875.00</u>	_____
Amount Budgeted (If none budgeted, identify source)*	<u>\$43,875.00</u>	_____

*The funds for this contract exist in the current Sewer Enterprise Fund budget.

FIRST AMENDMENT TO AGREEMENT

THIS FIRST AMENDMENT TO AGREEMENT ("Amendment") made and entered into as of this ____ day of April, 2010, amends the Agreement heretofore entered into between the CITY OF FRESNO, a municipal corporation, (hereinafter referred to as "CITY,") and BKS Energy, LLC, a California Limited Liability Company, (hereinafter referred to as "CONSULTANT.")

RECITALS

WHEREAS, CITY and CONSULTANT entered into an agreement, dated January 21, 2010, for professional Consultant services for the feasibility study for the viability of locating a Liquid Natural Gas generation and distribution station at the Fresno/Clovis Regional Wastewater Reclamation Facility, hereinafter collectively referred to as "Agreement;" and

WHEREAS, the CITY desires to expand the scope of services to include the evaluation of the use of Biomethane to generate LNG; and

WHEREAS, the CITY desires to incorporate and optimize the usage of the Biomethane produced at the RWRP as part of the same study; and

WHEREAS, both parties desire to extend the Agreement an additional 60 days through a completion date of August 14, 2010; and

WHEREAS, due to the need for additional services, the parties desire to increase the total compensation by an additional \$43,875.00; and

WHEREAS, with entry into this Amendment, CONSULTANT agrees that CONSULTANT has no claim, demands or disputes against CITY.

AGREEMENT

NOW, THEREFORE, the parties agree that the aforesaid Agreement be amended as follows:

1. Exhibit A, "Scope of Services", to the Agreement is amended to include the additional services as Attachment A, "Additional Scope of Services".
2. The date "June 15, 2010" in section 2 of the Agreement is amended to read, "August 14, 2010".
3. The total fee of "\$80,000.00" in section 3 (a) of the Agreement is amended to read, "\$123,875.00".

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IN WITNESS WHEREOF, the parties have executed this Amendment at Fresno, California, the day and year first above written.

CITY OF FRESNO,
a municipal corporation

BKS Energy, LLC,
A California Limited Liability Company

By: _____
Rene A. Ramirez, Director
Department of Public Utilities

By: [Signature]
Name: BERNO SCHAEFER

ATTEST:
REBECCA E. KLISCH
City Clerk

Title: Manager

By: _____
Deputy Date

By: _____

Name: _____

Title: _____

APPROVED AS TO FORM:
JAMES C. SANCHEZ
City Attorney

By: [Signature] 4/22/16
Nancy A. Algier Date
Senior Deputy

ATTACHMENT A

ADDITIONAL SCOPE OF SERVICES

Additional Study Scope for Completion

Based on bks AND City of Fresno Team conversations during the kick off meeting, the City of Fresno is a LNG user, a producer of biogas, and a user and producer of pipeline natural gas and electricity, respectively. BKS anticipates several scenarios whereby, the City of Fresno may, with the proper installation 1) use biogas and/or pipeline natural gas for LNG or 2) use biogas and/or pipeline natural gas for electricity generation. These opportunities may present advantages for the City to produce LNG or electricity (using either or both of the electrical generating units) with possible sale of LNG or electricity to offsite customers. The results of this analysis will be incorporated into the project's draft and final reports for the feasibility of LNG production at the waste water treatment plant.

Task 1: Define Project Scenarios and Indirect Inputs

In conjunction with City of Fresno staff, BKS will define and prioritize goals with respect to utilization of biogenic gas and carbon capture priorities: CO2 Recycling, Carbon Credits, Low Carbon Fuel Standard Credits, Renewable Energy Credits, wastewater Treatment Plant power requirements present and future, and refuse fleet LNG requirements present and future. Economic values for Renewable Energy Credits and Low Carbon Fuel Credits will be estimated.

Task 2: Technical and Economic Analysis of Biogas Pre-treatment Technologies

Using data for biogas feed composition and flows, develop technology descriptions and costs for energy, operations and capital to produce a gas stream suitable for liquefaction and electricity production (using current equipment). Analyze current and future projected biogas flows. For future biogas generation, BKS is aware that the City of Fresno is evaluating importing biomass from offsite (e.g., waste food-oil-grease, green waste) to enhance current biogas generation. BKS will assume future biogas generation at the following percentages of current generation: 125%, 150%, and 200% and assuming the current composition.



Task 3: Determine Scenarios for Biogas Utilization

Biogas may be used as liquefaction feedstock and/or to fuel energy generation on site. The liquefaction and energy generation scenarios will be completed to include 1) operation of one or two generators, with excess electricity exported to the grid, 2) production of LNG in amounts equal to current use, 200% of current use, and 300% of current use, 3) generation and treatment of biogas as necessary at 100%, 150% and 200% of current biogas generation rates, 4) use of biogas for electricity generation and/or LNG production, including estimates for renewable energy and low carbon fuels standard credits which may be generated. Thus, by permuting the variables above, a suite of scenarios will be developed and identified for economic analysis with input from City of Fresno and using data from the previous tasks. Additionally BKS will assist the City to determine what CPUC and CEC threshold, standards, and/or tariffs. For example, BKS anticipates that power load flow and transmission interconnect studies must be conducted and the transportation tariff for natural gas used for vehicle fuel may be utilized.

Task 4: Perform Economic Analysis for Suite of Scenarios

BKS will perform a discounted cash flow analysis of those scenarios identified in Task 3. Specifically BKS will evaluate the scenarios on a "pure project return" basis, taking into account only equity capital and without regard to debt financing alternatives available to the City. In this respect BKS will provide a detailed summary of fixed and variable inputs that impact the financial model and cash flow analysis. Cash flows will be modeled at the level of earnings before interest, tax, depreciation and amortization (EBITDA) consistent with a pure project return analysis. BKS also will differentiate the project economics on a cost basis -- for those LNG flows that will be consumed by the City -- and a for-profit basis assuming unrelated 3rd party sales. Distinction also will be made between the cost of producing LNG based upon pipeline gas as feedstock versus biogas as feedstock. An economic value will be imputed to the cost of the biogas taking into account the planned capital and operating expenditure associated with the future bio-gas treatment facility that is planned. In each case, analysis will be made of the profit per LNG gallon that the City can expect given the price of feedstock gas, as well as the capital cost of the facility. A net present value analysis will be undertaken as well commensurate with the City's own defined discount rate.



Task 4: Incorporate Results into Draft and Final Reports

The results of the analysis conducted in the above tasks will be incorporated into the Draft Report prepared for the base project.

This will define a specific direction toward optimizing the economics of producing biogas, LNG and electricity for the City of Fresno.

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