

CITY COUNCIL CONFERENCE MINUTES

March 22, 2011

The City Council of the City of Norman, Cleveland County, State of Oklahoma, met in a conference at 5:30 p.m. in the Municipal Building Conference Room on the 22nd day of March, 2011, and notice and agenda of the meeting were posted at the Municipal Building at 201 West Gray, and the Norman Public Library at 225 North Webster 48 hours prior to the beginning of the meeting.

PRESENT: Councilmembers Atkins, Butler, Cubberley, Dillingham, Griffith, Kovach, Quinn, Mayor Rosenthal

ABSENT: Councilmember Ezzell

DISCUSSION REGARDING COMPRESSED NATURAL GAS (CNG) FUELING FACILITY PROJECT.

Mr. Shawn O'Leary, Director of Public Works, said today's presentation will update the City's Alternative Fuel Program (AFP); describe the Project Team; provide background information on Compressed Natural Gas (CNG); project cost estimates and grant allocations; project schedule(s); fuel saving projections; CNG project design and site plan; public access to fuel facility; any remaining challenges; and CNG project benefits. He introduced Mr. John Bolte, Small Arrow Engineers, located in Joplin, Missouri, to Council and said they specialize in CNG fueling design and facilities.

Mr. Mike White, Fleet Superintendent, said the City's AFP was adopted February 24, 2009, and highlights of the City's AFP include implementing alternative fuel technology; monitoring new technological advances to suit needs; developing a CNG Station; and purchasing vehicles based on operational issues, fiscal concerns, and environmental stewardship; and increasing CNG Fleet Vehicles. He said before the 2009 Policy the City Fleet included 65 electric, two (2) hybrid, seven (7) CNG, 29 flex fuel, 258 unleaded, and 311 diesel for a total of 672 vehicles. The City's current Fleet has 159 non-fuel vehicles to include 65 electric, two (2) hybrid, 29 CNG, 70 flex fuel, 212 unleaded, and 309 diesel/biodiesel for a total of 684 vehicles.

Mr. Bolte said he is the Project Manager in charge of the American Recovery and Reinvestment Act (ARRA)/Association of Central Oklahoma Governments (ACOG) Grant Administration. He said Mr. Otto Boothe, P.E. with Sunor, Inc., is responsible for the electrical engineering and design; Lemke Land Surveying is performing the survey work; and EST, Inc., will provide both geotechnical investigation and materials testing.

Mr. Bolte provided slides reflecting the Natural Gas Shale Basins in the United States and Natural Gas Pipeline Grid for the lower 48 States. He said new technologies have evolved with the extraction of shale gas and oil that were not attainable in the past.

Mr. Bolte highlighted terms and definitions for CNG to include:

- Gasoline Gallon Equivalent (GGE) Approximately 125 CF of Natural Gas – 124,800 British Thermal Units (BTU)
- Diesel Gallon Equivalent (DGE) Approximately 148 CF of Natural Gas – 148,000 BTUs
- British Thermal Unit (BTU)
- Dekatherm: 1,000,000 BTUs
- Cubic Feet per Minute (CFM)
- Standard Cubic Feet per Minute (SCFM)
- Pounds per Square inch (Gauge)

Mr. Bolte highlighted the different types of CNG Systems:

Quick Fill/Fast Fill/ Rapid Fill: a vehicle connects to a quick fill dispenser and refuels similar to a vehicle at a typical gas station. CNG is typically produced by larger compressors and stored in storage cylinders or spheres, before being metered and dispensed into a vehicle. The refuel time is three to eight minutes; suction pressure is 5-150 psig; and produces 50-160 GGE per hour.

Slow Fill/Time Fill: a vehicle connects to a slow fill dispenser and refuels over a length of time. CNG is typically produced by smaller compressors and the refuel time is one to ten hours. The suction pressure is ≤ 5 psig and produces 12-25 GGE per hour.

Vehicle Refueling Appliance (VRA): a slow fill dispenser is typically used for home refueling of an individual vehicle and refuel time is two to twenty hours. The suction pressure is 0.25 psig and produces ≤ 1 GG per hour. Mr. Bolte said a VRA is typically installed in the garage, tied into the home's natural gas service, and would operate on the standard delivery pressure as the home.

Mr. Bolte provided anticipated construction costs with match/grant splits stating the match total for a Quick Fill Construction would be \$236,451, the grant total would be \$782,300 and utility deposits would be \$55,000. The match total for Engineering/Professional Services would be \$36,185 and the grant totals would be \$84,310, making the total cost \$1,194,246 for a Quick Fill Project.

Slow Fill Construction would receive a 50% match and a 50% grant from the Association of Central Oklahoma Governments (ACOG). The ACOG grant would change to 100% over \$200,000, making the match total \$242,740 and grant total \$200,000. Staff said the total Slow Fill Project costs would be \$442,740.

The total match funds for Quick and Slow Fill Projects would be \$515,376 and total grant funds would be \$1,121,610, making the grand total costs for a CNG project \$1,636,986. The proposed CNG Station would have both Quick Fill and Slow Fill Stations with the Quick Fill Station located on the north end of the property allowing public access from Goddard Avenue and a Slow Fill Station on the south end of the property for City use.

Mr. Bolte provided information on the CNG Project schedule and said the equipment package has been designed and a bid opening is scheduled for Thursday, March 24, 2011. He said the site design package is currently being developed and should go out to bid in May 2011. He said once equipment begins to arrive, the construction phase will commence and the equipment will be assembled. He said Council action will be needed various times throughout the CNG Project to include Council consideration and approval for the Oklahoma Natural Gas (ONG) contract, for a main line extension being built from Robinson Street, which is scheduled on the April 12, 2011, agenda; Council consideration and approval for the equipment package bid opening later this week, which is tentatively scheduled on the April 26, 2011, agenda; the ground breaking and official announcement in mid-May; Council consideration and approval for the site package/site contractor in late June; and finally the ribbon cutting for the CNG Fueling Station in October 2011.

Mr. Bolte provided typical CNG fuel savings for a sanitation truck and he said on average a sanitation truck used 25 gallons of diesel fuel per day. Sanitation trucks are used 260 days a year, (five days per week/52 weeks per year) using an average of 6,500 gallons of diesel fuel use annually. To re-power the current diesel engine to a CNG engine will cost \$55,500 and the average cost of diesel per gallon is currently is \$3.21 versus \$1.13 for the cost of CNG per gallon. The annual fuel savings per sanitation truck will be \$13,520 and an additional \$0.50 per gallon excise tax credit (if it continues to be extended) will save another \$4,095 for a total annual savings of \$16,770. Based on the fuel savings only, the payback period for sanitation truck(s) will be approximately 3.3 years and the average life span of a sanitation truck(s) is seven to ten years.

A light duty truck is used approximately 260 days per year, (five days per week/52 weeks per year), and uses an average of 3.5 gallons unleaded fuel per day for an average annual unleaded fuel usage of 910 gallons. The average unleaded fuel cost is \$2,698.60. It will cost an additional \$12,500 for a CNG light duty truck versus an unleaded light duty truck and the average cost of unleaded fuel is \$2.96 per gallon versus \$1.13 per gallon for CNG fuel. The annual fuel cost savings with CNG will be \$1,665.30 and an additional \$0.63 per gallon tax credit, if available, will be another \$573.30 for a total annual saving of \$2,120.30. Based on the fuel savings only, the payback period for a light duty truck will be approximately 5.9 years.

The CNG Fueling Station hours of operation will be 24 hours per day, seven days per week for City fleet and other fleets, i.e., Norman Public School (NPS), OU, etc., and will be open to the public Monday through Friday from 6:30 a.m. to 5:00 p.m. Mr. Bolte said a card reader system will be compatible with the City's Chip Key System for City vehicles and the typical cards accepted will be Mastercard, Visa, American Express, Discover, Gas Card, Fuelman, etc., for public fuel purchases.

Mr. Bolte highlighted some of the challenges of the CNG Fueling Station to include the local Fire Code limiting the hours of operation thus limiting the potential fuel sales to the public and Mr. Bolte said as the CNG demand grows Council may want to consider extending the hours. Mr. O'Leary said the current ordinance does not distinguish between CNG fuel and regular fuel and stated there is less of a hazard with CNG. He said if Council desired, the Fire Code could be amended to allow CNG Station(s) to be unmanned. Another challenge is security issues and Staff has been looking at completing an interconnect of the fiber optic run to Fire Station No. 7 that will allow security camera feeds to be connected directly to Fleet staff offices.

Mr. Bolte said once the CNG Station is in operation Council will need to decide whether to outsource to a third party or have Fleet Management staff develop and perform the billing, i.e., accounting and tracking of the sales; execute and file the federal fuel tax; and prepare and report the Internal Revenue Service (IRS) excise tax rebate. He said three to four days per month should be anticipated for clerical time and stated Fleet Management staff will also be tasked with additional responsibilities of managing the CNG Station.

Mr. Bolte said more pounds per square inch gauge (PSIG) pressure is needed at the proposed CNG Station and he said the current supply is 10 to 20 pounds which is fairly poor. He said the current two inch gas lines would not support the compressors. An item for Council consideration will be on the April 12, 2011, agenda for a six inch ONG Gas Service line to be installed from Robinson Street (6,000 feet) to allow 35 PSIG suction and reinforce the current system. Additionally, ONG has offered a very nice credit to the City based upon a five year projected load and the deposit is eligible for reimbursement through ARRA and ACOG grants.

In order to move the CNG Project forward the City needs to address inter-local agreements with NPS, Cleveland County, OU, City of Moore, and City of Noble, etc., to determine their CNG needs. Agreements need to be accepted so the City will know how much CNG fuel will be sold in order to prepare the CNG Station to have the available capacity to do so. Additionally, a pricing structure needs to be flexible and within the market range so that if changes should occur fees can be adjusted administratively rather than having to appear as an agenda item for Council consideration and approval.

The benefits of a CNG Station include:

- Emissions Reductions: reduces carbon monoxide emissions 90%-97%; reduces carbon dioxide emissions 25%; reduces nitrogen oxide emissions 35-60%; and emits little or no particulate matter.
- ARRA and ACOG Grants: allow leverage to acquire larger Slow-Fill Compressor instead of using donated Ingersoll Rand Unit.
- Excess Capacity beyond City Fleet (for public use): 600,000 gge/dge per year will be available allowing 10-12 public vehicles per hour to access a CNG Station.

- Excise Tax Rebate from Internal Revenue Service (IRS): \$0.50 per gge/dge and if annually renewed could potentially be a \$325,000 rebate to the City over five years.
- Market CNG usage to other local partners: school districts; local fleets, i.e., AT&T, Ready Mix, ONG, Chesapeake, etc.; Cleveland County; area municipals, i.e., Moore, Noble, etc.; Back up for OU Buses; and the general public.
- \$1,285,000 potential savings for City fleet fuel over gasoline/diesel.

Councilmember Kovach asked Staff what the comparison of mileage for diesel versus CNG would be and Mr. White said the mileage would be the same which is about three miles per gallon. Mr. Bolte agreed and said CNG burns at a 130 octane, which is hotter than diesel or unleaded gas producing fewer emissions. Councilmember Kovach also suggested Staff look at Norman Regional Hospital's fleet as a potential partner.

Councilmember Dillingham asked how long before the City will have the science to quantify the savings for cleaner air and Mr. Bolte said he needed to research calculations for carbon credits. He said Clean Cities initiatives have been implemented in a lot of metro areas where air pollution is a concern and ACOG funding can be received through Clean Cities to assist with projects to reduce pollution. Councilmember-Elect Dave Spaulding asked what percentage of vehicles in the United States (U.S.) are CNG and Mr. Bolte said currently only 120,000 vehicles in the U.S. and 8.7 million world-wide are using CNG fuel.

Mayor Rosenthal felt seeking local CNG partners would help grow the program and said extension of the federal excise tax rebate is on the legislative agenda.

Items submitted for the record

1. PowerPoint presentation entitled, "CNG Fueling Facility," City of Norman, Council Conference, March 22, 2011

The meeting adjourned at 6:22 p.m.

ATTEST:

City Clerk

Mayor