



City of **GREENSBORO** *North Carolina*

Landfill Gas Utilization Project – Contract Authorization

**September 2, 2014 City Council Meeting
Dale Wyrick, P.E., Director of Field Operations**



Purpose

Staff requests that the City Council select Petra Engineering, PLLC to provide turn-key services to finance, design, construct and operate the White Street Landfill Gas Utilization project, and subsequently authorize the City Manager to enter into contract negotiations with Petra Engineering consistent with the contract principles found in RFP# 2013-529. This project also continues to provide the Cone Denim White Oak Plant with its current supply of landfill gas.



Project Solicitation Overview

- Request for Qualifications issued in January, 2013
- Request for Proposals issued in May, 2013
- Received 3 proposals in July, 2013



Solicitation Overview – Developer-Financed Proposals

- **Petra Engineering, PLLC (Huntersville, NC)**
 - Fixed 15-year offer with \$155,000 average annual payments (\$2.33 Million)
 - Plant will utilize about 55% of current gas production using 2 generators
 - ***Only firm to also offer a one generator solution – \$55,000 per year**
- **Enerdyne Power Systems, Inc. (Charlotte, NC)**
 - Fixed 15-year offer with \$132,000 average annual payments (\$1.97 Million)
 - Plant will utilize about 85% of current gas production using 2 generators
- **Methane Power, LLC (Apex, NC)**
 - Conditioned offer based on Purchased Power Agreement with Duke Energy
 - Very little revenue to the City based on current condition



Landfill Gas Utilization Project Overview

- Petra Engineering receives the rights to a portion of the landfill gas generated at the White Street Landfill to produce electricity
- Petra will finance, design, permit, build, own and operate a landfill gas to energy facility located at the White Street Landfill (no upfront City funding needed)
- Petra will utilize M/WBE subcontractors in the construction phase of the project
- The electricity produced at Petra's landfill gas to energy facility will be purchased by Duke Energy



Landfill Gas Utilization Project Overview (continued)

- Petra will pay the City of Greensboro \$55,000 annually for the rights to the landfill gas
- Cone Denim will pay the City of Greensboro up to \$100,000 annually for the landfill gas it uses (this project distributes most of the gas to Cone Denim)
- The term of this project is 15 years (with an option for the City to purchase landfill gas to energy plant from Petra around year 7)
- Upon completion of the project term, the City assumes ownership of all landfill gas rights and has the option to purchase Petra's equipment and receive revenues from the sale of electricity to Duke Energy



Cone Denim White Oak Plant and the Landfill Gas Utilization Project - Background

- City & Cone Denim have partnered in a landfill gas agreement since 1996
- Economic Incentive Grant began in 2004
- Cone Denim White Oak Plant uses about 40% of current landfill gas production for its manufacturing operations
- Cone Denim White Oak Plant currently has 235 jobs
- Council asked staff to also consider the needs of Cone Denim White Oak Plant as part of project



Cone Denim White Oak Plant and the Landfill Gas Utilization Project - Outcomes

- Cone Denim can continue to receive its current amount of landfill gas
- As part of this project, Cone Denim will receive its landfill gas for the next 7 years
- Cone Denim will pay the City for the landfill gas depending on the amount of use

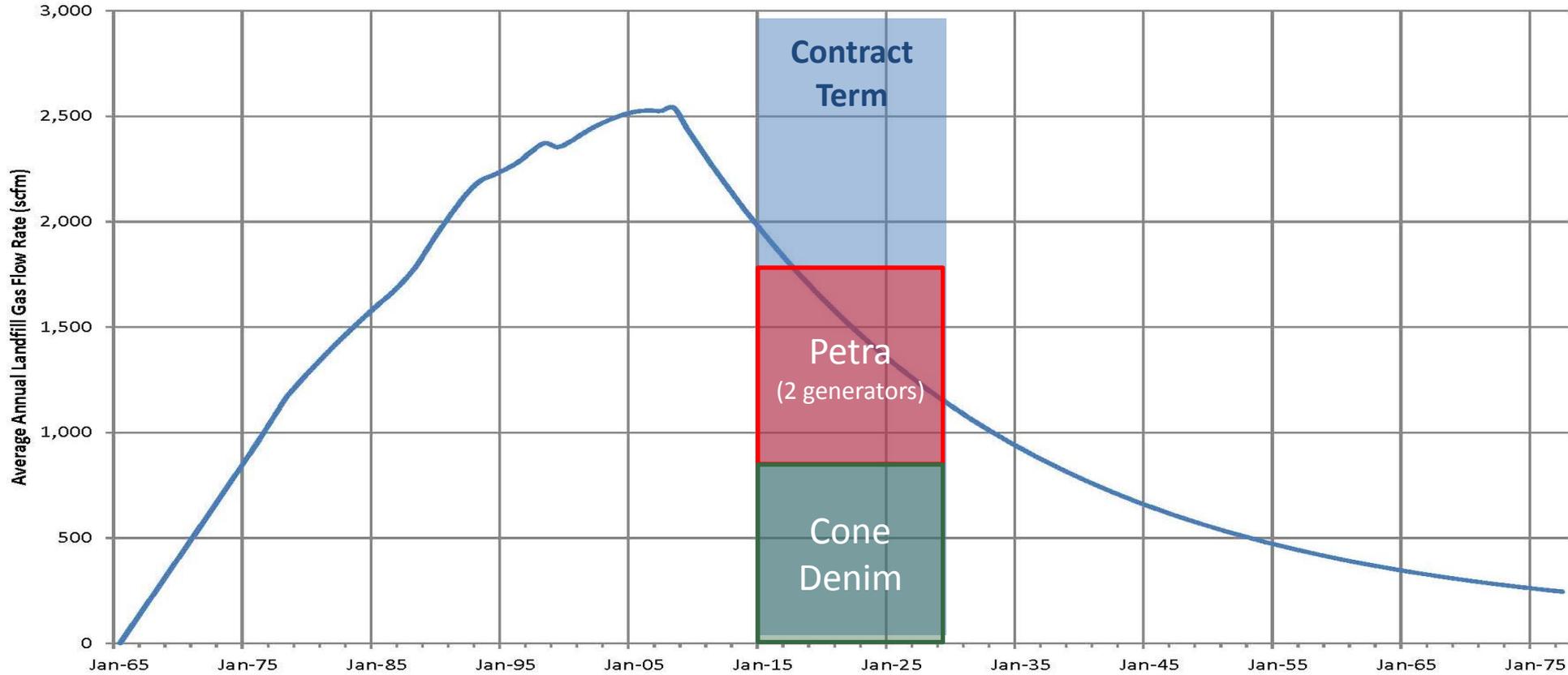


Cone Denim White Oak Plant and the Landfill Gas Utilization Project - Outcomes

Annual Payment for Methane	Methane, measured in dth (dekatherms)
\$100,000	From 225,001 to 275,000
\$ 75,000	From 200,001 to 225,000
\$ 50,000	From 175,001 to 200,000
\$40,000	From 0 to 175,000

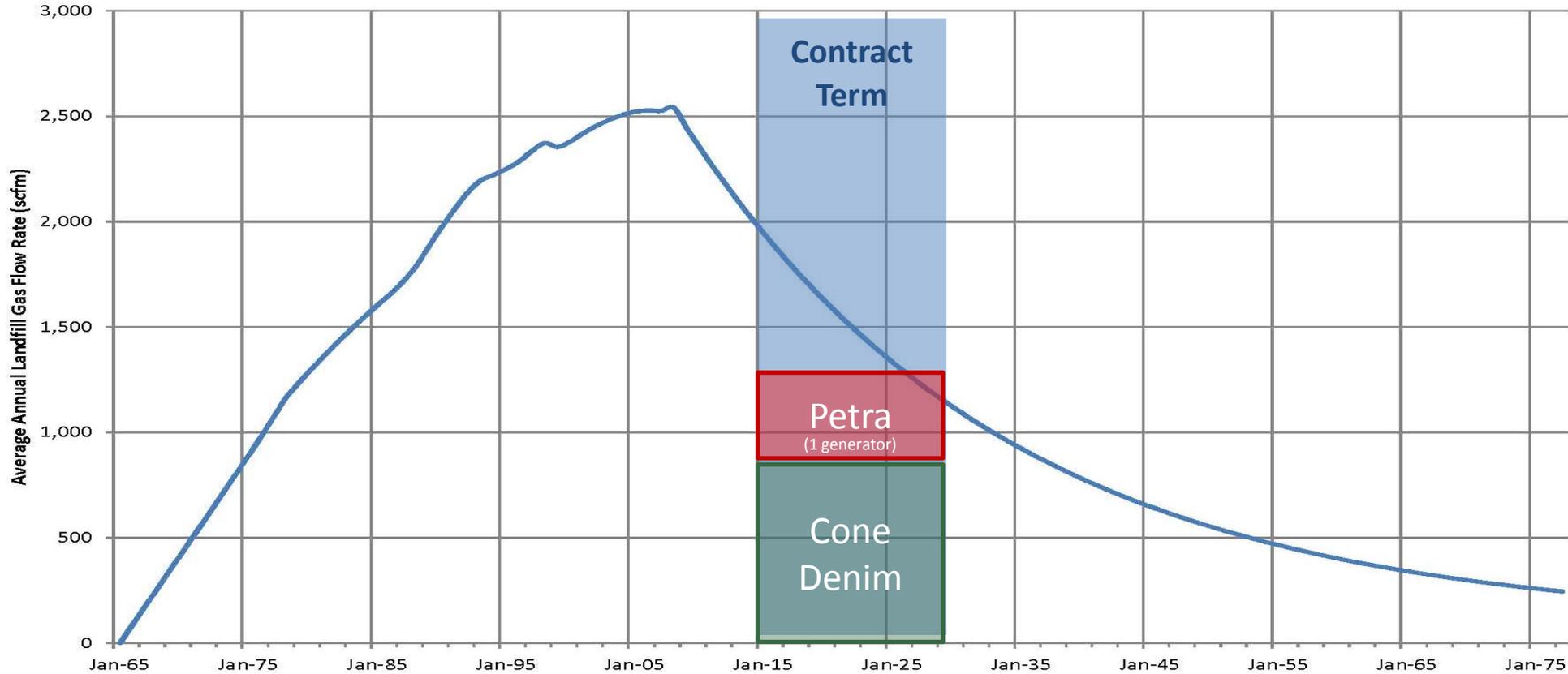
1. Landfill gas is composed of 50% methane
2. Cone Denim methane use for past 3 years:
2013 - 215,500 dth;
2012 - 246,000 dth;
2011 - 245,000 dth

Estimated Landfill Gas Production White Street Landfill



**(Petra Engineering 2 Generator Project will use around 1000 scfm per year;
Cone Denim will use about 950 scfm per year; not enough gas for both for 15 years)**

Estimated Landfill Gas Production White Street Landfill



**(Petra Engineering Single Generator Project will use around 450-500 scfm per year;
Cone Denim will use about 950 scfm per year; just enough gas for both for 15 years)**



Petra Engineering's Single Generator Project Components:

Project Phase	Estimated Cost	M/WBE Opportunity
Equity Participation	\$3,100,000	Minimum of 5%, or \$160,000 minority investment
Engineering Design	\$300,000	Petra is self-performing
Equipment	\$2,300,000	N/A (LFG generators are purchased from Caterpillar)
Construction	\$350,000	70%, or \$245,000 (electrical and concrete foundation work)
Interconnection	\$200,000	N/A, fee paid directly to Duke Energy
Plant Operation	1 FTE (minimum)	Utilize Workforce Development for employee recruitment

\$300,000 (Engineering) + \$350,000 (Construction) = \$650,000 (Potential M/WBE Opportunities)

MBE: \$45,000 (Concrete Foundation) + \$160,000 (Investment) = \$205,000/\$ 650,000 = 31%; WBE: \$200,000 (Electrical)/\$ 650,000 = 30%