

AGENDA

**FORT SMITH BOARD OF DIRECTORS
STUDY SESSION
NOVEMBER 22, 2005 - 12:00 NOON
FORT SMITH PUBLIC LIBRARY
COMMUNITY ROOM**

1. Review proposal of Cambrian Energy to improve the collection of landfill gas at the Fort Smith landfill
2. Review preliminary agenda for the December 6, 2005 regular meeting



Placed on Dec. 6th mtg
Parrish / Shipley

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MEMORANDUM

November 18, 2005

TO: Bill Harding, City Administrator

FROM: Ray Gosack, Deputy City Administrator

SUBJECT: Landfill Gas

For the last 8 years, Fort Smith has been in a private-public partnership for the retrieval and sale of landfill gas from the city's landfill. The landfill gas operator, Cambrian Energy, is desirous of investing further in Fort Smith's commercial landfill gas production and sale. This additional investment will result in substantially more landfill gas being sold and more revenue for the city. The new investment will require amendments to an agreement with Cambrian Energy and its partners.

BACKGROUND

Landfill gas is produced from the decomposition of waste. It's comprised of approximately 50% methane (the major component of natural gas), 40-49% carbon dioxide (CO₂), and certain trace components from the landfill waste. Unless captured, landfill gas escapes into the environment and is believed to add to the *greenhouse effect*. Federal and state landfill regulations require that landfill gas be captured so that it doesn't escape into the atmosphere.

If there were no private-public energy project, the expense of installing and operating the landfill gas collection system would be the city's sole responsibility. Cambrian Energy has been bearing these expenses. The federal government provides tax credits for private companies who invest in landfill gas recovery operations. Those tax credits supported the initial investment in the collection system and current gas processing facility at Fort Smith's landfill. However, the tax credits terminate at the

end of 2007.

Landfill gas has potentially beneficial re-use if it can be economically collected, converted to a higher energy product and sold at an economically viable price. With some processing, it can be sold as a medium Btu value fuel to some users. It usually has lower Btu's (heating capability) than other gasses such as natural gas. This is how Fort Smith's landfill gas has been processed for the last 8 years. With further processing, the landfill gas can become a higher Btu product nearly equivalent to the heating value of natural gas.

In the past, less than 20% of Fort Smith's landfill gas was sold, and those sales were at low prices. Currently, none of Fort Smith's landfill gas is being sold. The unsold gas is flared (burned) into the atmosphere.

PROPOSED ENHANCEMENTS

Cambrian Energy and its partners are willing to invest an estimated \$6 million to improve the quality of Fort Smith's landfill gas. This investment would install a high Btu gas processing facility and pipeline to process, sell and deliver Fort Smith's landfill gas to a natural gas pipeline. The enhancements will make **all** of the landfill gas universally marketable. Cambrian believes that it can sell all of the methane gas processed at the Fort Smith landfill all of the time at attractive prices if the quality of the gas is improved. The current higher prices for natural gas help make this investment viable for Cambrian and its partners. They have operated the same type of gas processing equipment at the largest landfill in Kansas since 2001.

In order to add the additional processing equipment, Cambrian needs to expand the land area it leases from the city at the landfill. Also, Cambrian is proposing that the percentage of landfill gas sales paid to the city as a royalty be 6.5% for the first 5 years and 10% thereafter in order to receive a sufficient return on Cambrian's large capital investment and its increased operating costs. The royalty is currently 13%.

Providing the additional land area causes no concerns for the city. Although the royalty percentage would decrease, the amount of revenue to the city would **substantially increase** as a result of Cambrian's investment. Here's a comparison of the royalty revenue.

- ▶ When gas was being sold previously, the city received approximately \$18,000 annually.

- ▶ Under the proposed lease terms, the city's annual revenue is estimated to be \$140,000 at a royalty of 6.5% and \$216,000 at a royalty of 10% (assuming a sales price of \$6.00 per MMBtu).
- ▶ The increased payments result from selling more gas at higher prices.
- ▶ The royalty payments are anticipated to increase as the amount of landfill gas increases because of additional refuse deposited at the landfill.
- ▶ Any increase in natural gas prices would also increase the royalty payments.

The staff believes the investment being made by Cambrian Energy (and the risk being taken by Cambrian) warrants the adjustments to the royalty percentage.

CONCLUSION

The benefits to the city and the community of the proposed changes are that more of the landfill gas is used (rather than being flared) and the city will receive higher royalty payments. This private-public partnership has saved the city millions of dollars in meeting its obligation to capture landfill gas.

Evan Williams of Cambrian Energy will be at the November 22nd study session to review the proposed improvements. If the board concurs with the changes outlined above, we will have the amended lease agreements ready for the December 6th board meeting.

Ray

cc: Evan Williams, Cambrian Energy