Gas Collection and Control System (GCCS) and Landfill Flare

Council Presentation

January 24, 2017

Timeline

Year	Description of Events
November 2007	Cefe Valenzuela Landfill opens.
January 2008	First NMOCs report showed *calculated* emissions rate <50Mg/yr.
July 2009	First NMOC *testing* showed NMOC emission rate <50Mg/yr.
July 2010	NMOC *testing* showed NMOC emission rate <50Mg/yr. Results were valid for 5 years
May 2015	NMOC *testing* showed NMOC emission rate ***>50Mg/yr***. Project included in CIP.
January 2016	SCS/City personnel met to begin gas system planning.
March 2016	Design proposal further refined.
May 2016	Design contract in place, final schedule formalized to meet design, bidding, procurement, and construction milestones.
June 2016	Surface Scan performed to confirm one last time the results.
October 2016	Gas System Designs and bid package completed.
November 2016	Pre-bid held to kick off construction of GCCS. Bids went out for Flare fabrication.
December 2016	Bids came in for GCCS construction and Flare fabrication.
	NMOC=Non-Methane Organic Compound

Issues with Developing Landfill Gas-to-Energy Use at Cefe

Landfill Gas-to-Energy Use	Current Issues with Developing at Cefe
Carbon Credits	• Not available since gas system is required by rule and not voluntary • Carbon credits currently have little to no value in the U.S.
Electric Generation	• Cost to purchase equipment and generate green power from the combustion of landfill gas requires selling electricity for 6 cents kW/hr • In Texas, no more than "avoided cost" will be offered by utilities and this is currently under 4 cents kW/hr • Also, Texas has no rules allowing for "net metering," which would allow the City to offset their own usage through generation at the landfill • State's renewal portfolio goals are met through wind generation
Medium-Btu Gas	• No close natural gas users (pipeline would be miles long making not economically feasible) • Natural gas prices are currently low (generally $2-$4 MMBtu spot pricing), companies are not interested in paying a premium to use "green gas" • Landfill gas requires cleanup for use in industrial boilers, etc. such that many businesses are not interested due to added maintenance and other difficulties which further escalates the cost to use landfill gas
Natural Gas Production	• Millions in capital costs and specialized operating experience required to setup a refining facility to create natural gas from landfill gas • Cefe is not projected to be producing enough landfill gas for approximately 10 more years to justify consideration of this type of project • In the future, however, this may become a viable option since once the capital cost of the refining equipment is justified, developers can currently create renewable fuel credits and receive upwards of $20 MMBtu (current normal natural gas spot pricing is at $2-$4 MMBtu)
Vehicle Fuel (CNG)	• Same obstacles as for other natural gas uses, expensive equipment to refine landfill gas into compressed natural gas when natural gas prices are so low • City of Corpus Christi specifically has access to low natural gas prices from City utility • Better economics of refining into natural gas, placing in a natural gas pipeline, and creating a fuel credit transaction as shown above than direct vehicle fuel

US EPA Non-compliance Fines

- Fines are site specific complex formula.
- It is estimated that it could reach $5,000 per day and still be required to build the landfill Gas Extraction System.

QUESTIONS?