Landfill Site Overview
City of Denton Landfill
City of Denton Landfill

- Owned and operated by the City of Denton
- Opened in 1984 under permit 1590
- 32 acre original pre-subtitle D site
• Expanded to 252 acres in 1998
• 152 acre waste footprint, 14Mcy
• 30 year life expectancy in 1998
• 20 groundwater monitoring wells
• 24 gas monitoring wells
February 2008

Gas Extraction System

• 2007 – SCS Engineers designed the landfill gas collection system
• $1.2M system installed by Shaw Environmental

The system consists of:
• 52 vertical wells
• 20 lateral wells
June 2008

Flare Station

- Methane destruction
- Monitoring equipment
  - Gas analyzer
  - Flow metering
December 2008

LFG-to-Energy Generating Station

• CAT engine 3520
• 1.6 megawatt generator
• DTE Biomass Energy

DTE Energy

DTE Biomass Energy
Increased gas generation rate will allow for increased electric production on site.
Enhanced Leachate Recirculation (Texas’ Term for Low Moisture “Bioreactor”)

- Faster stabilization of organic waste
- Increased rate of gas generation
- ≤50,000 gallons/day (avg.)
  Liquid injected into the waste pack

January 2009
Public/Private Partnership for LFG-to-Energy

• Request for Proposals (RFP) process
  – Open for any possible types of LFG utilization
    • Electricity production
    • Steam production
    • Direct gas sales, etc.

• Negotiated an Agreement with DTE Biomass Energy
• 20 year term and renewal terms
• Buy-out options at various points in time or the occurrence of certain events.
• Specify a date for plant start-up and full capacity production and the ability of terminate the contract if exceeded
Parties Responsibilities

• City will:
  • Provide DTE with exclusive rights to LFG
  • Provide a site for the facility
  • Pay for the capital cost of the LFG Collection system, extraction wells, & Flare Station

• DTE will:
  • Provide the capital to build the generating station, monitor, manage and repair the gas collection system
  • Pay the City a 12.5% royalty of gross power sales
Financing Options

• Owner may finance all or part of the project with tax exempt bonds
• Owner may wish to provide no capital funding and require the vendor to cover all costs
• Other variations can be developed through and RFP process
Permitting

• Ensure that your agreement covers each parties responsibilities for permitting
  – TCEQ’s Air permit
  – TCEQ’s MSW permit
• And all other required permits (Stormwater, building, etc.)
Beneficial Use of Landfill Gas

Questions?
Vance Kemler- Gen. Mgr, Solid Waste & Recycling Services
City of Denton, Texas
940.349.8044