DALLAS CLEAN ENERGY McCOMMAS BLUFF

Clean Energy Renewable Fuels, LLC
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LMOP TEXAS LANDFILL LL GAS ENERGY WORKSHOP

July 16, 2013
INTRODUCTION & OUTLINE

- PERMITTING
- LANDFILL GAS COLLECTION
- PLANT & PROCESS DESIGN
- PIPELINE INTERCONNECT
- OFF-TAKE AGREEMENT
PERMITTING

- Environmental
- Site Plan Approval
- Building Permits
- Utility Services
- Pipeline Interconnects
Environmental

- Air Quality Permits (Title V, Oil and Gas Permit)
- Solid Waste Plan Amendment
- GCCS Plan Amendment
- Storm Water Pollution Prevention Plan (SWPPP)
- Spill Prevention, Control & Countermeasures (SPCC)
- Wetlands
- Drains
LANDFILL GAS COLLECTION

- Total of 448 collection points
- 347 Existing Vertical Wells
- 70 Vertical Wells in Expansion
- 26 Horizontal Wells
- 5 Leachate Collection Risers
LANDFILL GAS COLLECTION
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Well Field Operations
Well Field Operations
Well Field Operations
PLANT & PROCESS DESIGN

- INLET BLOWERS
- MOISTURE REMOVAL
- H2S REMOVAL
- CHILLER
- TEMPERATURE SWING ADSORPTION
- PRESSURE SWING ADSORPTION
- FINAL COMPRESSION
- WASTE GAS
  - TOX
  - FLARE
PLANT & PROCESS DESIGN
PIPEGINE INTERCONNECT

- Identify Local and Interstate Pipelines
- Utility Typically Requires a LFG Sample (Product Liability)
- Location, Location, Location
- Additional Permits May Be Required
- Operational Issues (Off-Spec Gas - Shut In)
PIPELINE INTERCONNECT
On April 3, 2009, DCEMB entered into a contract with Shell for the long-term supply of renewable natural gas; this contract was extended on March 27, 2012 to cover additional volumes.

The contract accounts for ~95% of DCE production over next 10 years and extends through 2034.

The Renewable Natural Gas is delivered to the Sacramento Municipal Utilities District for use in a combined cycle power plant generating Renewable Energy Credits.

This contract is grandfathered under the revised California Renewable Portfolio Standards (“RPS”) mandate.

DCEMB is a registered Renewable Fuel Standards – Program 2 site and can sell its RNG and create RINs.
SUMMARY

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