

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

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PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF EAST KENTUCKY POWER )  
COOPERATIVE, INC. FOR AN ORDER DECLARING THE )  
MAYSVILLE-MASON COUNTY LANDFILL GAS TO ENERGY )  
PROJECT TO BE AN ORDINARY EXTENSION OF )  
EXISTING SYSTEMS IN THE USUAL COURSE OF BUSINESS )

CASE NO.

2007-00509

APPLICATION

1. Applicant, East Kentucky Power Cooperative, Inc., hereinafter referred to as "EKPC", Post Office Box 707, 4775 Lexington Road, Winchester, Kentucky 40392-0707, hereby files this Application for an order declaring the Maysville-Mason County Landfill Gas To Energy ("LFGTE") project (the "Project"), as described in the exhibits attached hereto, to be an ordinary extension of existing electric systems in the usual course of business.

2. This Application is made pursuant to KRS §278.020 and related statutes, and 807 KAR 5:001 Section 8 and related sections.

3. A copy of Applicant's restated Articles of Incorporation and all amendments thereto were filed with the Public Service Commission (the "Commission") in PSC Case No. 90-197, the Application of East Kentucky Power Cooperative, Inc. for a Certificate of Public Convenience and Necessity to Construct Certain Steam Service Facilities in Mason County, Kentucky.

4. Applicant states that the Project represents an ordinary extension of existing systems in the usual course of business and does not require the issuance of a Certificate of Public Convenience and Necessity, pursuant to KRS 278.020 (1) and 807 KAR 5:001 Section 9 (3).

5. As grounds for this Application and its request for a declaratory order, Applicant states as follows:

(a) KRS §278.020 (1) provides an exemption from the requirement of a Certificate of Public Convenience and Necessity for the construction of new facilities for furnishing regulated utility services to the public if such new facilities are ordinary extensions of existing systems in the usual course of business. As defined by 807 KAR 5:001 Section 9 (3), such ordinary extensions must not “create wasteful duplication of....facilities,” must not “conflict with the existing certificates or service of other utilities operating in the area...,” and must “not involve sufficient capital outlay to materially affect the existing financial condition of the utility involved, or will not result in increased charges to its customers.”

(b) The Project proposed by EKPC involves generation output of 10 MW or less and will represent an individual investment of approximately \$2.5 million. No Site compatibility certificate is required for this Project, pursuant to the provisions of KRS §278.216(1). This facility will provide small, but reliable and economic, quantities of electric energy to EKPC's member systems utilizing renewable resources, and will not require investments sufficient to materially affect the financial condition of EKPC, or require an increase in EKPC's wholesale power rates.

(c) The proposed generating facility for the Project will be constructed on a leased portion of the landfill itself, and will be connected to EKPC transmission facilities in the vicinity. The facilities will not compete or conflict with the existing certificates or services of any other jurisdictional utilities in the area. Therefore, such facilities will not represent wasteful duplication of plant, equipment, property or facilities.

6. Attached hereto is Exhibit I, which includes detailed information concerning the Maysville-Mason County LFGTE project. As indicated in the Table of Contents to the exhibit, this information includes descriptions of the Project, capital and operating cost estimates, financing information, feasibility studies, gas supply agreement and site lease, a map and the EKPC board resolution relevant to the Project. This project is very similar to the Bavarian LFGTE project, which was approved by the Commission in PSC Case No. 2002-00352 on December 18, 2002, the Green Valley and Laurel Ridge Projects, which were approved by the commission in PSC Case No. 2002-00474 on March 3, 2003, the Hardin County LFGTE Project, which was approved by the Commission in PSC Case No. 2005-00164 on July 8, 2005, and the Pendleton County LFGTE Project which was approved by the Commission in PSC Case No. 2006-00033 on March 10, 2006, and EKPC hereby incorporates by reference the information filed in those cases, which provides general background on the development of the LFGTE projects by EKPC, which is relevant to this application.

7. Applicant states that the Project is needed to provide economical electric energy, through the use of renewable resources, to the EKPC member systems for service to their member consumers, and that prompt approval of this Application is critical to EKPC's efforts to purchase long lead equipment items while adhering to the project schedule to bring generating electricity from this facility by mid-November 2008.

WHEREFORE, EKPC respectfully requests the Commission to expedite its review of this Application and to issue a declaratory order to the effect that the Project constitutes an ordinary extension of existing facilities in the usual course of business and does not require a Certificate of

Public Convenience and Necessity, pursuant to KRS 278.020 (1) and 807 KAR 5:001 Section 9  
(3).

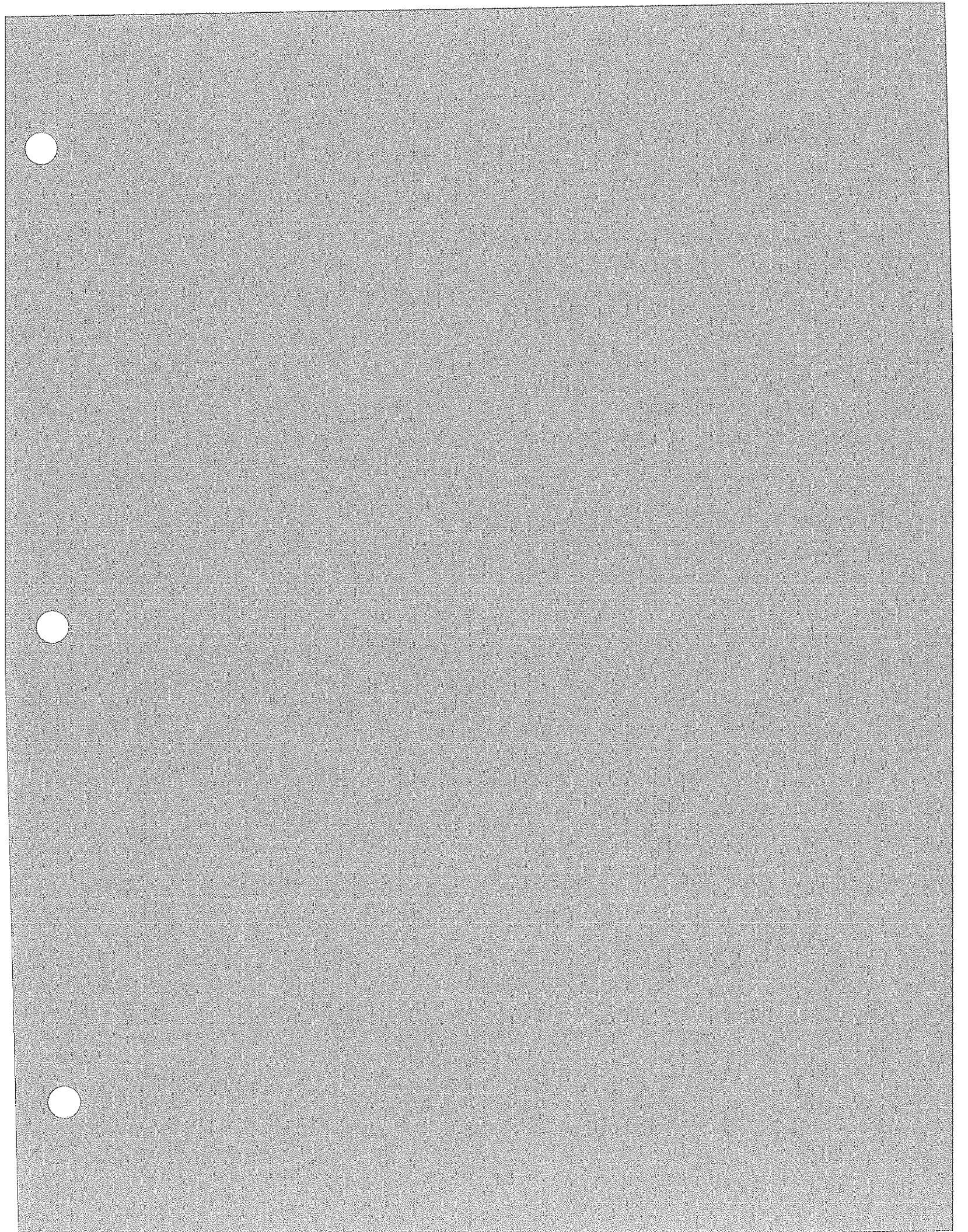
Respectfully submitted,

DAVID A. SMART

CHARLES A. LILE

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COURSE OF BUSINESS )

EXHIBIT I  
PROJECT INFORMATION  
MAYSVILLE-MASON COUNTY LANDFILL GAS TO ELECTRIC PROJECT



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**East Kentucky Power Cooperative, Inc.  
Maysville-Mason County Landfill Gas to Electric ("LFGTE") Generation  
Project**

## **1.0 Project Description**

The Maysville-Mason County Landfill is owned by the City of Maysville and Mason County and managed by Mason County. The site primarily accepts municipal solid waste (MSW) from northeast Kentucky, at this time. The site also accepts a small amount of construction and demolition debris (CDD) waste. The landfill is located south of KY Route 546 (AA Highway) on Clarkson-Sherman Road. The site includes two separate fill areas, a closed residential landfill and an active contained landfill.

A partial gas collection system at the contained landfill was installed in 2005, including a small manually operated solar-powered flare. The contained landfill does not have a vacuum blower and relies on positive pressure in the collection system to force gas through the flare. Due to the relatively small size of this landfill, Mason County is not currently required to collect the gas under NSPS.

Development of a Landfill Gas to Electric ("LFGTE") generating facility at this site will require the Mason County to install six (6) additional gas collection wells and leachate pumps in the contained landfill and install piping to connect with the closed residential cell's collection system. EKPC will maintain vacuum on the landfill and deliver landfill gas to its' facility by using its' own gas compressor/fuel skid until such time as Mason County is required to install a blower/flare skid under the guidelines of NSPS.

East Kentucky Power Cooperative, Inc. ("EKPC") submitted a proposal with an initial 20 year term to Mason County for development of a 1.6 MW Landfill Gas to Electric (LFGTE) generating facility to be located on the landfill site, near Maysville, Kentucky. Based upon SCS Engineers Landfill Gas Modeling Report, dated February 22, 2007 and updated report released on August 29, 2007, the site is not anticipated to expand beyond the 1.6 MW capacity at the current and projected future annual waste receipt rates.

EKPC's project scope includes a masonry building of approximately 3,000 square feet, one (1) Caterpillar model 3520 low emission reciprocating engine/generator set, rated at about 1600 kW, switchgear, controls, gas compressor/fuel skid, and all transformers, transmission lines and equipment. Mason County will install additional gas collection wells and leachate pumps. EKPC will lease a plant site of approximately one half (1/2) acre in size on a previously disturbed area from Mason County.

Plant construction is anticipated to last approximately 6 months, commencing upon receipt of all necessary permits and approvals including the Kentucky Public Service Commission and an Air Permit from the Kentucky Division of Air Quality. Transmission from the facility will be provided by interconnecting with an existing on-site 12.47 kV distribution feeder to the Rectorville Substation, located in Fleming Mason Energy Cooperative's service territory and includes equipment upgrades and communication equipment.

## **2.0 Feasibility Study**

As provided in Exhibit "A", EKPC enlisted the services of SCS Engineers to perform methane gas recovery projections for the Maysville-Mason County Landfill. As you will note in Exhibit "A" of this report, SCS estimates that that with only 60% coverage of the landfill by the gas collection system, the site could be collecting 338 scfm at 50% methane by 2008. With the installation additional gas collection wells, the plan is to increase this coverage to about 75% or 423 scfm. By 2012, the recoverable quantity is estimated to be 522 scfm at 75% coverage.

On August 12, 2007, SCS provided an updated gas modeling report, indicating at 60% coverage, the contained landfill cell is estimated to collected 356 scfm at 50% methane. Mason County reported that the closed residential landfill is flaring between 100 and 200 scfm of methane at 54%. Subsequently, the decision was made to run a pipeline connecting to two collection systems to provide a combined flow of approximately 500 scfm of 50% methane for the LFGTE facility.

EKPC believes that by combining the two landfill cells, this site is capable of harvesting enough methane gas to operate a 1.6 MW engine plant at a 90% to 95% capacity factor, as the Caterpillar 3520 has a heat rate of about 9000 btu/kWh . In future years, capacity factor is expected to increase beyond 95% as more waste is added to the cell.

Based upon the similarities between this and other EKPC LFGTE projects, EKPC now uses its own model for performing Feasibility Studies at landfills.

### **3.0 Cost of Generation**

**The Mason County LFGTE project electrical energy is projected to cost of less than \$32 MWh (net present value over the next 20 years).**



#### 4.0 Capital Cost Breakdown

As of June 12, 2007 the Pendleton County LFGTE Facility is estimated to cost \$ 2,499,000 and is further detailed as follows:

Cat Model G3520C	\$ 815,000
Gas Compressor	125,000
Switchgear	100,000
480 Volt Motor Control Center	20,000
General Construction Contract	845,000
Development costs	20,000
A/E contract	60,000
Transmission	275,000
Tools/ Spare Parts	25,000
Gas Chromatograph	50,000
Contingency (9%)	209,000
	<hr/>
Total	\$ 2,499,000

## **5.0 Expected Hours of Generation**

**The Caterpillar G3520C engine has a gross rating of 1600 kW at 100% load.**

**An availability factor of 95% has been assumed. Therefore, annual kilowatt-hours of generation may be calculated as follows:**

**$1600 \text{ kW/hr} \times 8760 \text{ hrs/year} \times 95\% \text{ availability} = 13,315,200 \text{ kWh annually}$**

## 6.0 Annual Operation, Maintenance and Fuel Cost

East Kentucky estimates that the average annual cost for operations/maintenance personnel, equipment maintenance (including major overhauls) & supplies and fuel is \$81,000, \$123,000 and \$57,000, respectively for the Mason County LFGTE project, including 3% escalation. The total average cost for the twenty(20) year period from 2008 – 2027 is \$ 373,000, including all fixed and variable costs. These figures assume one operator/maintenance person per site with backup provided from other locations.

Maintenance includes routine parts and supplies and a recommended overall schedule. East Kentucky proposes to model its operations & maintenance program after its' other LFGTE projects and that of Waste Management Services ("WM"), who is a leader in the landfill gas to electric generation industry. WM has been developing and operating LFGTE projects for over twenty years, beginning in Wisconsin in 1985. Today, WM has landfill gas to electric and medium Btu plants operating in twenty-one (21) states.

EKPC's following estimated annual maintenance cost per 1600 kW unit (without escalation and overhaul costs) based upon current vendor information:

Oil	\$20,000
Spark Plugs	3,000
Air Filters	1,000
Turbo-Charger	4,000
Water Pump	1,000
Top End Overhaul	25,000
Switchgear	<u>6,000</u>
Subtotal	\$60,000
Misc. Contingency	<u>15,000</u>
Total Est. Annual Maintenance Cost	\$75,000

As noted, the annual estimated cost per engine includes lubricating oil, spark plugs, air filters, oil filters, replacement turbo-charger, water pump, top-end

overhaul and switchgear inspections is approximately \$60,000 per year. EKPC has added a misc. contingency amount and rounded to a more conservative figure of \$75,000 per year in its calculations.

Approximately every 5 years, each unit will require a complete overhaul estimated to cost \$150,000.

Based upon the fact that these plants are very similar in design and equipment utilized, it is anticipated that the plant on-line times, operations and maintenance costs will also be very similar to that of other EKPC LFGTE plants and the WM program.

Fuel cost is based upon the anticipated delivery and usage at an estimated average cost of \$0.40/MMBtu and as further specified in the Gas Purchase Contract with the Mason County Fiscal Court.

As of May 2007, coal costs at EKPC's existing coal fired plants ranged from \$1.162/MMBtu to \$2.777/MMBtu. Fuel Oil cost ranged from \$14.43 to \$15.46/MMBtu and Natural Gas averaged \$ 8.43/MMBtu.

## **7.0 Financing**

**Funding for this project will be provided by the use of general funds reimburseable with either Rural Utilities Service ("RUS") funds or Clean Renewable Energy Bonds ("CREB's"), if available. The rate for a 30 yr RUS loan as of March 16, 2007 is 4.82%. The CREB's have a 0% interest rate with approximately a 1% administrative fee.**

## **8.0 Landfill Gas Analysis**

The minimum heating value of the landfill gas will fluctuate based upon how effectively the gas collection system is operated. As you will note in Article 2.1 of the Gas Purchase Agreement, the minimum heating value of Conforming Landfill Gas to be made available for purchase is 50% (approximately 500 Btu's per cubic foot). Any landfill gas delivered below 50%, as noted in Article 2.3, shall be deemed Non-Conforming Gas, resulting in a reduced purchase price or East Kentucky electing to decline delivery, thus encouraging a more efficient gas collection system operation and higher plant capacity factor. EKPC typically averages receipt of landfill gas in the 520 to 550 Btu /scfm at its' other LFGTE facilities.

In Section 16 of EKPC's PSC Informational Data Request for the Bavarian Landfill LFGTE Project, dated November 22, 2002, an analysis taken at the Green Valley Landfill was provided for informational purposes.

## **9.0 Board Resolution**

**On June 11, 2007 the EKPC Board of Directors approved the use of general funds subject to reimbursement from RUS construction loan funds or National Rural Utilities Cooperative Finance Corporation ("CFC") Clean Renewable Energy Bonds of the Mason County LFGTE facility at an estimated capital cost of \$ 2,499,000 for a 1.6 MW capacity plant (see Exhibit "C").**

## **10.0 Environmental**

The Rural Utilities Service (RUS), an Agency delivering the United States Department of Agriculture (USDA) Rural Development Utilities Programs, hereinafter referred to as Rural Development and/or Agency must complete an environmental analysis and prepare an Environmental Report (ER) in accordance with its *Environmental Policy and Procedures for Implementing the National Environmental Policy Act* (7 CFR Part 1794), prior to approving the financing for the proposed project. EKPC will conduct the environmental investigation and analysis, and prepare an environmental report (ER) for independent review by Rural Development. Based on Rural Development's review, the ER may be accepted as the agency's ER to meet environmental regulations for complying with the *National Environmental Policy Act of 1969* (NEPA). The ER will serve as a written record of the environmental analysis completed for the proposed project and will be used to determine whether the preparation of an Environmental Impact Statement is necessary.





**11.0 Exhibit A: SCS Report dated February 22, 2007**

**SCS Report dated August 29, 2007**

**SCS ENGINEERS**

February 22, 2007  
File No. 05206024.00

Mr. Ralph Tyree  
East Kentucky Power Cooperative, Inc.  
4775 Lexington Road  
Winchester, Kentucky 40391

Subject: Maysville-Mason County Landfill  
Mason County, Kentucky  
Landfill Gas Modeling Report

Dear Mr. Tyree:

This letter report has been prepared to document a landfill gas investigation in connection with the potential development of a landfill gas to energy (LFGE) facility at the Maysville-Mason County Landfill located near Maysville, Kentucky. This development is being considered by the East Kentucky Power Cooperative, Inc. (EKPC). EKPC has been in discussions with representatives of the Mason County Fiscal Court regarding the feasibility of constructing an electric generation project at the Maysville-Mason County Landfill.

## INTRODUCTION

The Mason County Fiscal Court owns and operates the active Maysville-Mason County Landfill, which is located south of Maysville, in Mason County, Kentucky. The site primarily accepts municipal solid waste (MSW) from northeast Kentucky. The site also accepts some amount of sludges and construction and demolition debris (CDD). The landfill is located south of KY Route 546 (AA Highway) on Clarkson-Sherman Road. The site includes 2 separate fill areas, a closed Residential Landfill and an active Contained Landfill.

Two separate landfill gas (LFG) collection systems have previously been constructed at the site. The initial LFG collection system was installed in the closed Residential Landfill in 2001. The system has a small skid-mounted flare for burning off the collected LFG from the Residential Landfill. A partial gas collection system at the Contained was installed in 2005 and includes a small solar-powered flare. The Contained Landfill gas collection system does not have a vacuum blower and relies on positive pressure in the collection system to force gas through the flare.

## LANDFILL BACKGROUND

The Maysville-Mason County Landfill is comprised of two separate disposal units. The site first received waste in 1981 in the old Residential Landfill. Primary disposal operations were shifted to the Contained Landfill in 1997. Waste receipts at the site were minimal in the early years of operation of the Residential Landfill. Waste receipts increased significantly starting in

1997 and have been consistently in the range of 80,000 to 100,000 tons per year over the last 3 years.

Currently, the landfill has over 1 million tons of waste in place in the Residential and Contained Landfills combined. The total remaining permitted waste capacity at the site is about 4.5 million tons of waste as of the end of year 2006. The landfill reportedly has received a large volume of paper sludge waste and has high internal leachate levels, especially in the old Residential Landfill. The status and characteristics of the landfill site are summarized below in Table 1.

**TABLE 1 - LANDFILL CHARACTERISTICS**

Landfill Phase	Proposed Total Waste Tonnage (tons)	Estimated Filling Dates	Waste Tonnage In-place*	Current Status of Disposal Unit
Residential	308,951	1981-1998	308,951	Closed
Contained	5,270,965	1997-2056	783,645	Active
Total	5,579,916	1981- 2056	1,092,596	--

\*As of the end of 2006.

#### **LANDFILL GAS BACKGROUND**

A LFG collection system exists within in the closed Residential Landfill and parts of the active Contained Landfill. This consists of 35 vertical gas extraction wells and interconnected piping in the Residential Landfill. Another 6 vertical wells were installed later in the Contained Landfill. The system in the Residential Landfill was connected to a blower and flare unit.

Available details on the existing landfill gas collection in the Residential Landfill are as follows:

- A total of 35 vertical gas extraction wells were installed in 2001. The wells were completed in 24-inch diameter boreholes. The wells range in depth from about 30-50 feet. Gas is also collected from a horizontal collector that was installed primarily for leachate removal.
- The wells are connected by a header pipe consisting of 6-inch HDPE pipe along with 4-inch HDPE lateral pipes that were installed at the time of well installation. The expected gas flow at the time of system installation was about 200 scfm.
- A condensate trap was installed at the low point in the collection piping.

- A pre-fabricated, skid-mounted blower/flare, Triton model CF-350 Candle Flare, manufactured by LFG & E International was installed. The blower and flare were sized to accommodate the expected gas flow and is rated for flows ranging from 35 scfm to 350 scfm of LFG.
- Three wells were installed as combination gas extraction/leachate removal wells. These wells were equipped with model AP-4 air-operated submersible pumps. Additional wells have been modified to accept leachate pumps since their initial installation. Leachate is currently being pumped from about 5 to 8 gas wells.

Available details on the Contained Landfill collection system include:

- A total of 6 vertical gas extraction wells were installed in 2005. The wells were completed using 6-inch PVC pipe in 36-inch diameter boreholes. The wells range in depth from about 15-30 feet. All gas wells installed in the Contained Landfill are designed to accommodate leachate removal pumps, if needed.
- The wells are connected by header pipes consisting of 8 to 10-inch HDPE pipe along with 4-inch HDPE lateral pipes. Air lines and a leachate forcemain were also installed at the time of well installation. The gas piping was sized for an ultimate gas flow of about 1,200 scfm.
- For interim gas control during the initial operation, the site purchased and installed a LFG Specialties model CF-5 Landfill Vent Flare. The passive flare is 2 inches in diameter and operates on solar power to ignite the landfill gas. The flare can handle a maximum gas flow of 50 scfm and is not equipped with a flow measuring device.

The skid-mounted blower and flare may need to be relocated to accommodate the future installation of a LFGE plant at the landfill. See the discussion on Flare Relocation found on page 5 of this report.

## **LANDFILL GAS MODEL**

SCS models LFG recovery directly, eliminating the need to multiply LFG generation by an estimated recovery rate. The ultimate methane recovery rate ( $L_0$ ) used as a model input parameter in the updated projections directly considers both methane generation and estimated recovery rate. Separate models were prepared for the Residential Landfill and Contained Landfills that were then combined into a single model output.

The LFG recovery projection for the landfill is shown in the attached Exhibits. The SCS model projects landfill gas recovery at a methane content of 50 percent. SCS prepared its model using the following input parameters:

- **Refuse Filling History and Projections:** Mason County previously provided the total waste tonnage to SCS for the period 1981 through 2003. SCS requested and received an update to the waste quantity received in 2004, 2005, and 2006. Mason County also provided an updated projection of future waste receipts for years 2007 and later. A level disposal rate of 90,000 tons per year was used for 2007 through the time all airspace in the landfill will be filled.
- **LFG Decay Rate Constant (k):** The SCS default k value of  $0.084 \text{ yr}^{-1}$  was used for the Contained Landfill based on precipitation data (44 inches per year) for the area. An adjusted k value of  $0.090 \text{ yr}^{-1}$  was chosen for the Residential Landfill because of the wet conditions and estimated gas available to the gas collection system.
- **Ultimate Methane Recovery Rate ( $L_0$ ):** The SCS default  $L_0$  value of  $2,980 \text{ ft}^3/\text{ton}$  was used for the Contained Landfill. An adjusted value of  $4,500 \text{ ft}^3/\text{ton}$  was selected for the Residential Landfill based on local average precipitation and existing gas collection system estimated flows.
- **System Coverage:** System coverage of 90 percent was used starting in 2002 for the Residential Landfill. Due to the negative impact of leachate in the gas wells, that coverage was dropped to 70 percent by year 2006. This takes into account that a fully operational gas collection system has been installed, and that a portion of the landfill is not being influenced by the LFG collection system. Coverage in the Contained Landfill is currently estimated at only 30 percent. For the purpose of this report, it is assumed that the collection system in the Contained Landfill will be expanded to an estimated system coverage of 60 percent in 2008. Future values assume that expansion and aggressive operations and maintenance (O&M) of the system will be regularly undertaken.

Projected LFG recovery for the waste receipt volume in the Residential Landfill is tabulated in Exhibit 1. Projected LFG recovery for the waste receipt volume in the Contained Landfill is tabulated in Exhibit 2. Projected LFG recovery for the combined waste in both the Residential and Contained Landfills is tabulated in Exhibit 3. Actual future gas recovery may be lower (or higher) depending on the site's future operating practices.

The landfill gas model used by SCS is a first-order model, based on (and similar to) the U.S. Environmental Protection Agency (EPA) Landfill Gas Emissions Model (LandGEM). The model version developed by SCS calculates gas recovery or collection, not gas generation. The model uses input variables for methane generation potential ( $L_0$ ) and annual gas generation rate (k) that have been developed specifically by SCS based on a data base of over 160 operational landfill gas collection systems. Limited gas flow data was available on this site and has the accompanying benefits on the accuracy of the gas projections contained herein for the Residential Landfill. No gas flow data was available to use for the Contained Landfill gas recovery projection.

This recovery projection is based on our engineering judgment as of the date of this report. This report has been prepared in accordance with the care and skill generally exercised by reputable LFG professionals, under similar circumstances, in this or similar localities. No other warranty, express or implied, is made as to the professional opinions presented herein. Changes in the landfill property use and conditions (for example, in-place waste densities, variations in rainfall, water levels, landfill operations, leachate recirculation, waste composition, final cover systems, or other factors) may affect future gas generation at the site. SCS does not guarantee the quantity or the quality of available landfill gas. While the projection includes gas generated from future landfill operations, it should be noted that on-going approvals from the Kentucky Division of Waste Management (DWM) will be required for the site to keep operating as a waste disposal facility.

This letter report has been prepared exclusively for the use of the East Kentucky Power Cooperative, Inc. No other party, known or unknown to SCS, is intended as a beneficiary of this report or the information it contains. Third parties use this report at their own risk. SCS assumes no responsibility for the accuracy of information obtained from, or provided by, third-party sources.

## **FLARE RELOCATION**

Currently, the skid-mounted blower flare unit is located south of the closed Residential Landfill. For implementing a future LGFE facility, the primary gas collection point should be located near the Contained Landfill where the bulk of the waste will be disposed and most of the future gas generation will occur. As part of the constructing a LFGE plant, consideration should be given to relocating the existing blower/flare unit. This will involve installing approximately 2,800 feet of 6-inch HDPE pipe, a condensate sump, a condensate discharge line, and at least 2 road crossings.

The estimated cost of connecting the 2 gas collection systems and relocating the flare is approximately \$125,000. This assumes that an electric service to the flare will be provided in conjunction with the installation of the LFGE plant, or is already available near the maintenance shop next to the Contained Landfill. It is also assumed that no rock excavation is required to install the pipe and that this work would be done in conjunction with the installation of an expanded collection system in the Contained Landfill. Given the diminishing gas recovery expected from the Residential Landfill over time, this level of investment in a pipeline from the Residential Landfill to the Contained Landfill may not be economically justified.

The design of the existing blower on the skid-mounted blower/flare allowed for a suction pressure of -20 inches w.c. at a gas flow up to 350 scfm. Assuming a gas flow of 100-150 scfm from the Residential Landfill, friction losses in the new 6-inch pipe will be about 5-10 inches, leaving an available vacuum to the wellfield of 10-15 inches from the relocated flare. When gas flow from the Contained Landfill is added, the existing blower/flare unit will be undersized to handle the total gas flow from both landfill units at the time system coverage in the Contained Landfill reaches 60 percent (assumed to occur in year 2008). The flare would be

Mr. Ralph Tyree  
February 22, 2007  
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adequate to burn off excess gas not used by the LFGE plant, but not all the gas that could be recovered from both landfills. The current blower is only capable of supplying enough gas to fully operate one 800 kW genset unit.

## CONCLUSIONS

Based on the data obtained and the updated waste projections made for this site, SCS believes the Maysville-Mason Landfill has some potential for a LFGE facility. Currently, the site is capable of collecting landfill gas from the Residential Landfill at a rate of about 100 scfm of landfill gas at 50 to 54 percent methane. The anticipated gas flow from an active gas collection system with 60 percent coverage, if achieved with a system expansion by 2008, would generate a gas flow of an additional 300 scfm at 50 percent methane from the Contained Landfill. Landfill gas recovery from the Residential landfill has already peaked and will decline in the future. Additional future gas flows would have to come from the Contained Landfill, or through increased coverage or efficiency of the existing gas collection system.

The existing gas collection system has some issues that need to be considered. Some of the wells are negatively impacted by high leachate levels and are not capable of recovering the expected volume of gas. More wells on the Residential Landfill may need to be converted to combination leachate/gas extraction wells. The site is also performing leachate recirculation in the Contained Landfill. While this extra moisture tends to increase the rate of gas production, gas wells in this area may be negatively impacted by leachate when a vacuum is applied to the wells. The wet conditions can be overcome by adding leachate pumps to the wells, but this will result in higher collection system installation and O&M costs. This should be taken into account by EKPC in deciding to locate a LFGE plant at the Mason County site.

Please contact Gary Saylor of SCS at (513) 421-5353 if you have any questions regarding this report.

Sincerely,

Gary L. Saylor, P.E., L.S.  
Project Manager  
SCS ENGINEERS

Charles E. Satchwill, Jr.  
Sr. Project Manager  
SCS ENGINEERS

GLS/CES

Enclosure



**EXHIBIT 1. LFG RECOVERY PROJECTION (RESIDENTIAL LANDFILL)  
MAYSVILLE-MASON COUNTY LANDFILL - MAYSVILLE, KENTUCKY**

Year	Disposal Rate (tons/yr)	Refuse In-Place (tons)	LFG Recovery Potential			LFG System Coverage (%)	LFG Recovery from Existing and Planned System		
			(scfm)	(mmcf/day)	(mmBtu/yr)		(scfm)	(mmcf/day)	(mmBtu/yr)
1981	6,514	6,514	0	0.00	0	0%	0	0.00	0
1982	12,897	19,411	10	0.01	2,570	0%	0	0.00	0
1983	12,897	32,308	28	0.04	7,437	0%	0	0.00	0
1984	12,897	45,205	45	0.06	11,885	0%	0	0.00	0
1985	12,897	58,102	60	0.09	15,950	0%	0	0.00	0
1986	12,884	70,986	74	0.11	19,665	0%	0	0.00	0
1987	13,332	84,318	87	0.12	23,055	0%	0	0.00	0
1988	13,780	98,098	99	0.14	26,331	0%	0	0.00	0
1989	14,565	112,663	111	0.16	29,501	0%	0	0.00	0
1990	18,486	131,148	123	0.18	32,708	0%	0	0.00	0
1991	19,046	150,194	140	0.20	37,186	0%	0	0.00	0
1992	26,740	176,934	156	0.22	41,499	0%	0	0.00	0
1993	31,135	208,069	182	0.26	48,477	0%	0	0.00	0
1994	37,612	245,681	213	0.31	56,588	0%	0	0.00	0
1995	26,118	271,799	250	0.36	66,555	0%	0	0.00	0
1996	21,971	293,770	267	0.39	71,131	0%	0	0.00	0
1997	6,381	300,151	277	0.40	73,677	0%	0	0.00	0
1998	8,800	308,951	263	0.38	69,853	0%	0	0.00	0
1999	0	308,951	253	0.36	67,313	0%	0	0.00	0
2000	0	308,951	231	0.33	61,519	0%	0	0.00	0
2001	0	308,951	211	0.30	56,224	0%	0	0.00	0
2002	0	308,951	193	0.28	51,385	90%	174	0.25	46,247
2003	0	308,951	177	0.25	46,962	90%	159	0.23	42,266
2004	0	308,951	161	0.23	42,920	80%	129	0.19	34,336
2005	0	308,951	147	0.21	39,226	80%	118	0.17	31,381
2006	0	308,951	135	0.19	35,850	70%	94	0.14	25,095
2007	0	308,951	123	0.18	32,765	70%	86	0.12	22,935
2008	0	308,951	113	0.16	29,945	70%	79	0.11	20,961
2009	0	308,951	103	0.15	27,367	70%	72	0.10	19,157
2010	0	308,951	94	0.14	25,012	70%	66	0.09	17,508
2011	0	308,951	86	0.12	22,859	70%	60	0.09	16,001
2012	0	308,951	79	0.11	20,892	70%	55	0.08	14,624
2013	0	308,951	72	0.10	19,093	70%	50	0.07	13,365
2014	0	308,951	66	0.09	17,450	70%	46	0.07	12,215
2015	0	308,951	60	0.09	15,948	70%	42	0.06	11,164
2016	0	308,951	55	0.08	14,576	70%	38	0.06	10,203
2017	0	308,951	50	0.07	13,321	70%	35	0.05	9,325
2018	0	308,951	46	0.07	12,175	70%	32	0.05	8,522
2019	0	308,951	42	0.06	11,127	70%	29	0.04	7,789
2020	0	308,951	38	0.06	10,169	70%	27	0.04	7,118
2021	0	308,951	35	0.05	9,294	70%	24	0.04	6,506
2022	0	308,951	32	0.05	8,494	70%	22	0.03	5,946
2023	0	308,951	29	0.04	7,763	70%	20	0.03	5,434
2024	0	308,951	27	0.04	7,095	70%	19	0.03	4,966
2025	0	308,951	24	0.04	6,484	70%	17	0.02	4,539
2026	0	308,951	22	0.03	5,926	70%	16	0.02	4,148
2027	0	308,951	20	0.03	5,416	70%	14	0.02	3,791
2028	0	308,951	19	0.03	4,950	70%	13	0.02	3,465
2029	0	308,951	17	0.02	4,524	70%	12	0.02	3,167
2030	0	308,951	16	0.02	4,134	70%	11	0.02	2,894
2031	0	308,951	14	0.02	3,779	70%	10	0.01	2,645
2032	0	308,951	13	0.02	3,453	70%	9	0.01	2,417
2033	0	308,951	12	0.02	3,156	70%	8	0.01	2,209
2034	0	308,951	11	0.02	2,884	70%	8	0.01	2,019
2035	0	308,951	10	0.01	2,636	70%	7	0.01	1,845
2036	0	308,951	9	0.01	2,409	70%	6	0.01	1,687
2037	0	308,951	8	0.01	2,202	70%	6	0.01	1,541
2038	0	308,951	8	0.01	2,012	70%	5	0.01	1,409
2039	0	308,951	7	0.01	1,839	70%	5	0.01	1,287
2040	0	308,951	6	0.01	1,681	70%	4	0.01	1,177

Methane Content of LFG Adjusted to: 50%  
 Selected Decay Rate Constant (k): 0.090  
 Selected Ultimate Methane Recovery Rate (Lo): 4,500 cu ft/ton

**EXHIBIT 2. LFG RECOVERY PROJECTION (CONTAINED LANDFILL)  
MAYSVILLE-MASON COUNTY LANDFILL - MAYSVILLE, KENTUCKY**

Year	Disposal Rate (tons/yr)	Refuse In-Place (tons)	LFG Recovery Potential			LFG System Coverage (%)	LFG Recovery from Existing and Planned System		
			(scfm)	(mmcf/day)	(mmBtu/yr)		(scfm)	(mmcf/day)	(mmBtu/yr)
1997	61,420	61,420	0	0.00	0	0%	0	0.00	0
1998	67,690	129,110	56	0.08	15,016	0%	0	0.00	0
1999	70,403	199,513	114	0.16	30,356	0%	0	0.00	0
2000	78,644	278,157	170	0.24	45,123	0%	0	0.00	0
2001	73,338	351,495	228	0.33	60,715	0%	0	0.00	0
2002	78,953	430,448	277	0.40	73,754	0%	0	0.00	0
2003	75,448	505,896	328	0.47	87,114	0%	0	0.00	0
2004	89,372	595,268	371	0.53	98,542	0%	0	0.00	0
2005	101,408	696,676	423	0.61	112,453	30%	127	0.18	33,736
2006	86,969	783,645	482	0.69	128,186	30%	145	0.21	38,456
2007	90,000	873,645	523	0.75	139,121	30%	157	0.23	41,736
2008	90,000	963,645	564	0.81	149,916	60%	338	0.49	89,950
2009	90,000	1,053,645	601	0.87	159,841	60%	361	0.52	95,905
2010	90,000	1,143,645	635	0.91	168,967	60%	381	0.55	101,380
2011	90,000	1,233,645	667	0.96	177,358	60%	400	0.58	106,415
2012	90,000	1,323,645	696	1.00	185,072	60%	418	0.60	111,043
2013	90,000	1,413,645	723	1.04	192,165	60%	434	0.62	115,299
2014	90,000	1,503,645	747	1.08	198,687	60%	448	0.65	119,212
2015	90,000	1,593,645	770	1.11	204,683	60%	462	0.66	122,810
2016	90,000	1,683,645	790	1.14	210,195	60%	474	0.68	126,117
2017	90,000	1,773,645	809	1.17	215,264	60%	486	0.70	129,159
2018	90,000	1,863,645	827	1.19	219,925	60%	496	0.71	131,955
2019	90,000	1,953,645	843	1.21	224,210	60%	506	0.73	134,526
2020	90,000	2,043,645	858	1.24	228,149	60%	515	0.74	136,890
2021	90,000	2,133,645	871	1.25	231,771	60%	523	0.75	139,063
2022	90,000	2,223,645	884	1.27	235,102	60%	530	0.76	141,061
2023	90,000	2,313,645	896	1.29	238,164	60%	537	0.77	142,898
2024	90,000	2,403,645	906	1.30	240,979	60%	544	0.78	144,588
2025	90,000	2,493,645	916	1.32	243,568	60%	549	0.79	146,141
2026	90,000	2,583,645	925	1.33	245,948	60%	555	0.80	147,569
2027	90,000	2,673,645	933	1.34	248,136	60%	560	0.81	148,882
2028	90,000	2,763,645	941	1.35	250,148	60%	564	0.81	150,089
2029	90,000	2,853,645	948	1.36	251,998	60%	569	0.82	151,199
2030	90,000	2,943,645	954	1.37	253,699	60%	572	0.82	152,219
2031	90,000	3,033,645	960	1.38	255,262	60%	576	0.83	153,157
2032	90,000	3,123,645	965	1.39	256,700	60%	579	0.83	154,020
2033	90,000	3,213,645	970	1.40	258,022	60%	582	0.84	154,813
2034	90,000	3,303,645	975	1.40	259,238	60%	585	0.84	155,543
2035	90,000	3,393,645	979	1.41	260,355	60%	587	0.85	156,213
2036	90,000	3,483,645	983	1.42	261,383	60%	590	0.85	156,830
2037	90,000	3,573,645	986	1.42	262,327	60%	592	0.85	157,396
2038	90,000	3,663,645	990	1.43	263,196	60%	594	0.86	157,918
2039	90,000	3,753,645	993	1.43	263,994	60%	596	0.86	158,397
2040	90,000	3,843,645	995	1.43	264,729	60%	597	0.86	158,837
2041	90,000	3,933,645	998	1.44	265,404	60%	599	0.86	159,242
2042	90,000	4,023,645	1,000	1.44	266,024	60%	600	0.86	159,615
2043	90,000	4,113,645	1,002	1.44	266,595	60%	601	0.87	159,957
2044	90,000	4,203,645	1,004	1.45	267,120	60%	603	0.87	160,272
2045	90,000	4,293,645	1,006	1.45	267,602	60%	604	0.87	160,561
2046	90,000	4,383,645	1,008	1.45	268,046	60%	605	0.87	160,828
2047	90,000	4,473,645	1,009	1.45	268,454	60%	606	0.87	161,072
2048	90,000	4,563,645	1,011	1.46	268,829	60%	606	0.87	161,297
2049	90,000	4,653,645	1,012	1.46	269,173	60%	607	0.87	161,504
2050	90,000	4,743,645	1,013	1.46	269,490	60%	608	0.88	161,694
2051	90,000	4,833,645	1,014	1.46	269,782	60%	609	0.88	161,869
2052	90,000	4,923,645	1,015	1.46	270,050	60%	609	0.88	162,030
2053	90,000	5,013,645	1,016	1.46	270,296	60%	610	0.88	162,178
2054	90,000	5,103,645	1,017	1.46	270,523	60%	610	0.88	162,314
2055	90,000	5,193,645	1,018	1.47	270,731	60%	611	0.88	162,439
2056	77,320	5,270,965	1,019	1.47	270,923	80%	815	1.17	216,738

Methane Content of LFG Adjusted to: 50%  
 Selected Decay Rate Constant (k): 0.084  
 Selected Ultimate Methane Recovery Rate (Lo): 2,980 cu ft/ton

**EXHIBIT 3. TOTAL LFG RECOVERY PROJECTION  
MAYSVILLE-MASON COUNTY LANDFILL - MAYSVILLE, KENTUCKY**

Year	Disposal Rate (tons/yr)	Refuse In-Place (tons)	LFG Recovery Potential			LFG System Coverage (%)	LFG Recovery from Existing and Planned System		
			(scfm)	(mmcf/day)	(mmBtu/yr)		(scfm)	(mmcf/day)	(mmBtu/yr)
1997	67,801	361,571	277	0.40	73,677	0%	0	0.00	0
1998	76,490	438,061	319	0.46	84,869	0%	0	0.00	0
1999	70,403	508,464	367	0.53	97,669	0%	0	0.00	0
2000	78,644	587,108	401	0.58	106,642	0%	0	0.00	0
2001	73,338	660,446	440	0.63	116,939	0%	0	0.00	0
2002	78,953	739,399	471	0.68	125,139	37%	174	0.25	46,247
2003	75,448	814,847	504	0.73	134,077	32%	159	0.23	42,266
2004	89,372	904,219	532	0.77	141,462	24%	129	0.19	34,336
2005	101,408	1,005,627	570	0.82	151,679	43%	245	0.35	65,117
2006	86,969	1,092,596	617	0.89	164,036	39%	239	0.34	63,551
2007	90,000	1,182,596	646	0.93	171,885	38%	243	0.35	64,671
2008	90,000	1,272,596	676	0.97	179,861	62%	417	0.60	110,911
2009	90,000	1,362,596	704	1.01	187,209	61%	433	0.62	115,062
2010	90,000	1,452,596	729	1.05	193,979	61%	447	0.64	118,889
2011	90,000	1,542,596	753	1.08	200,217	61%	460	0.66	122,416
2012	90,000	1,632,596	774	1.12	205,964	61%	473	0.68	125,667
2013	90,000	1,722,596	794	1.14	211,259	61%	484	0.70	128,664
2014	90,000	1,812,596	813	1.17	216,137	61%	494	0.71	131,427
2015	90,000	1,902,596	830	1.19	220,631	61%	504	0.73	133,973
2016	90,000	1,992,596	845	1.22	224,771	61%	513	0.74	136,320
2017	90,000	2,082,596	859	1.24	228,585	61%	521	0.75	138,483
2018	90,000	2,172,596	873	1.26	232,099	61%	528	0.76	140,477
2019	90,000	2,262,596	885	1.27	235,336	60%	535	0.77	142,314
2020	90,000	2,352,596	896	1.29	238,318	60%	541	0.78	144,008
2021	90,000	2,442,596	906	1.31	241,065	60%	547	0.79	145,569
2022	90,000	2,532,596	916	1.32	243,596	60%	553	0.80	147,007
2023	90,000	2,622,596	925	1.33	245,927	60%	558	0.80	148,332
2024	90,000	2,712,596	933	1.34	248,074	60%	562	0.81	149,554
2025	90,000	2,802,596	940	1.35	250,052	60%	567	0.82	150,680
2026	90,000	2,892,596	947	1.36	251,874	60%	570	0.82	151,717
2027	90,000	2,982,596	953	1.37	253,552	60%	574	0.83	152,673
2028	90,000	3,072,596	959	1.38	255,098	60%	577	0.83	153,554
2029	90,000	3,162,596	965	1.39	256,522	60%	580	0.84	154,365
2030	90,000	3,252,596	969	1.40	257,833	60%	583	0.84	155,113
2031	90,000	3,342,596	974	1.40	259,041	60%	586	0.84	155,802
2032	90,000	3,432,596	978	1.41	260,154	60%	588	0.85	156,437
2033	90,000	3,522,596	982	1.41	261,178	60%	590	0.85	157,023
2034	90,000	3,612,596	986	1.42	262,122	60%	592	0.85	157,562
2035	90,000	3,702,596	989	1.42	262,991	60%	594	0.86	158,058
2036	90,000	3,792,596	992	1.43	263,792	60%	596	0.86	158,516
2037	90,000	3,882,596	995	1.43	264,529	60%	598	0.86	158,938
2038	90,000	3,972,596	997	1.44	265,208	60%	599	0.86	159,326
2039	90,000	4,062,596	1,000	1.44	265,834	60%	600	0.86	159,684
2040	90,000	4,152,596	1,002	1.44	266,410	60%	602	0.87	160,014
2041	90,000	4,242,596	1,004	1.45	266,940	60%	603	0.87	160,318
2042	90,000	4,332,596	1,006	1.45	267,429	60%	604	0.87	160,598
2043	90,000	4,422,596	1,007	1.45	267,878	60%	605	0.87	160,855
2044	90,000	4,512,596	1,009	1.45	268,293	60%	606	0.87	161,093
2045	90,000	4,602,596	1,010	1.45	268,674	60%	607	0.87	161,312
2046	90,000	4,692,596	1,012	1.46	269,025	60%	607	0.87	161,513
2047	90,000	4,782,596	1,013	1.46	269,349	60%	608	0.88	161,699
2048	90,000	4,872,596	1,014	1.46	269,647	60%	609	0.88	161,870
2049	90,000	4,962,596	1,015	1.46	269,921	60%	609	0.88	162,028
2050	90,000	5,052,596	1,016	1.46	270,174	60%	610	0.88	162,173
2051	90,000	5,142,596	1,017	1.46	270,406	60%	610	0.88	162,306
2052	90,000	5,232,596	1,018	1.47	270,621	60%	611	0.88	162,429
2053	90,000	5,322,596	1,018	1.47	270,818	60%	611	0.88	162,543
2054	90,000	5,412,596	1,019	1.47	271,000	60%	612	0.88	162,647
2055	90,000	5,502,596	1,020	1.47	271,167	60%	612	0.88	162,744
2056	77,320	5,579,916	1,020	1.47	271,321	80%	816	1.18	217,017

Methane Content of LFG Adjusted to: 50%  
 Residential Contained  
 Selected Decay Rate Constant (k): 0.090 0.084  
 Selected Ultimate Methane Recovery Rate (Lo): 4.500 2,980 cu ft/ton

**SCS ENGINEERS**

August 29, 2007  
File No. 05206024.00

Mr. Ralph Tyree  
East Kentucky Power Cooperative, Inc.  
4775 Lexington Road  
Winchester, Kentucky 40391

Subject: Maysville-Mason County Landfill  
Mason County, Kentucky  
Updated Landfill Gas Modeling Report

Dear Mr. Tyree:

This letter report has been updated to reflect recent landfill gas investigations in connection with the potential development of a landfill gas to energy (LFGE) facility at the Maysville-Mason County Landfill located near Maysville, Kentucky. This development is being considered by the East Kentucky Power Cooperative, Inc. (EKPC). EKPC has been in discussions with representatives of the Mason County Fiscal Court regarding the feasibility of constructing an electric generation project at the Maysville-Mason County Landfill.

## INTRODUCTION

The Mason County Fiscal Court owns and operates the active Maysville-Mason County Landfill, which is located south of Maysville, in Mason County, Kentucky. The site primarily accepts municipal solid waste (MSW) from northeast Kentucky. The site also accepts some amount of sludges and construction and demolition debris (CDD). The landfill is located south of KY Route 546 (AA Highway) on Clarkson-Sherman Road. The site includes 3 separate fill areas, a closed Residential Landfill, a permitted Construction/Demolition Debris Landfill (under construction), and an active Contained Landfill.

Two separate landfill gas (LFG) collection systems have previously been constructed at the site. The initial LFG collection system was installed in the closed Residential Landfill in 2001. The system has a small skid-mounted flare for burning off the collected LFG from the Residential Landfill. Due to the cost associated with installing a pipe line from the Residential Landfill to the Contained Landfill and the current condition of the Residential Landfill gas collection system, the Residential Landfill has been excluded from consideration for this report. Only the gas collection potential from the Contained Landfill is included in the gas models in this report.

A partial gas collection system at the Contained was installed in 2005 and includes a small solar-powered flare. The Contained Landfill gas collection system does not have a vacuum blower and relies on positive pressure in the collection system to force gas through the flare.

## LANDFILL BACKGROUND

The Maysville-Mason County Landfill is comprised of two separate municipal disposal units. The site first received waste in 1981 in the old Residential Landfill. Primary disposal operations were shifted to the Contained Landfill in 1997. Waste receipts at the site were minimal in the early years of operation of the Residential Landfill. Waste receipts increased significantly starting in 1997 and have been consistently in the mid-80,000 tons per year over the last 3 years.

Currently, the landfill has nearly 800,000 tons of waste in place in the Contained Landfill. The total remaining permitted waste capacity at the site is about 4.5 million tons of waste as of the end of year 2006. The Contained Landfill reportedly has received a large volume of paper sludge waste. The Construction/Demolition Debris Landfill, once completed, will divert non-putrescible waste from the Contained Landfill. The diverted construction and demolition debris will extend the site life of the Contained Landfill by approximately 17 years and increase the methane content of the landfill gas by removing non-gas-generating wastes. Total capacity of the Contained Landfill will not change. The status and characteristics of the landfill site are summarized below in Table 1.

**TABLE 1 - LANDFILL CHARACTERISTICS**

Landfill Phase	Proposed Total Waste Tonnage (tons)	Estimated Filling Dates	Waste Tonnage In-place*	Current Status of Disposal Unit
Contained	5,270,965	1997-2073	781,791	Active

\*As of the end of 2006.

## LANDFILL GAS BACKGROUND

Available details on the Contained Landfill collection system include:

- A total of 6 vertical gas extraction wells were installed in 2005. The wells were completed using 6-inch PVC pipe in 36-inch diameter boreholes. The wells range in depth from about 15-30 feet. All gas wells installed in the Contained Landfill are designed to accommodate leachate removal pumps, if needed.
- The wells are connected by header pipes consisting of 8 to 10-inch HDPE pipe along with 4-inch HDPE lateral pipes. Air lines and a leachate forcemain were also installed at the time of well installation. The gas piping was sized for an ultimate gas flow of about 1,200 scfm.

- For interim gas control during the initial operation, the site purchased and installed a LFG Specialties model CF-5 Landfill Vent Flare. The passive flare is 2 inches in diameter and operates on solar power to ignite the landfill gas. The flare can handle a maximum gas flow of 50 scfm and is not equipped with a flow measuring device.
- A horizontal collector approximately 500 feet long has been installed above the leachate collection media along the western edge of the contained landfill to intercept landfill gas migrating through the leachate collection system that could exit the landfill along the western edge of waste placement. The horizontal collector is connected to the existing gas collection system that is tied to the solar flare. While it is not anticipated that the horizontal collector will capture a significant volume of landfill gas, the gas collection potential has been included in the projections for this report.

### LANDFILL GAS MODEL

SCS models LFG recovery directly, eliminating the need to multiply LFG generation by an estimated recovery rate. The ultimate methane recovery rate ( $L_o$ ) used as a model input parameter in the updated projections directly considers both methane generation and estimated recovery rate.

The LFG recovery projection for the landfill is shown in the attached Exhibit. The SCS model projects landfill gas recovery at a methane content of 50 percent. SCS prepared its model using the following input parameters:

- **Refuse Filling History and Projections:** Mason County provided existing waste in place and updated projection of future waste receipts for years 2007 and later. A level disposal rate of 90,000 tons per year was used for 2007 through the time all airspace in the landfill will be filled.
- **LFG Decay Rate Constant (k):** The SCS default k value of  $0.084 \text{ yr}^{-1}$  was used for the Contained Landfill based on precipitation data (44 inches per year) for the area. An adjusted k value of  $0.090 \text{ yr}^{-1}$  was chosen for the Residential Landfill because of the wet conditions resulting from leachate recirculation and estimated gas available to the gas collection system.
- **Ultimate Methane Recovery Rate ( $L_o$ ):** The SCS default  $L_o$  value of  $2,980 \text{ ft}^3/\text{ton}$  was used for the Contained Landfill. An adjusted value of  $4,500 \text{ ft}^3/\text{ton}$  was selected for the Residential Landfill based on local average precipitation and existing gas collection system estimated flows.
- **System Coverage:** Coverage in the Contained Landfill is currently estimated at only 30 percent. For the purpose of this report, it is assumed that the collection system in the Contained Landfill will be expanded to an estimated system coverage of 43 percent in 2008. Future values assume that expansion and aggressive operations and maintenance (O&M) of the system will be regularly undertaken.

Projected LFG recovery for the waste receipt volume in the Contained Landfill is tabulated in Exhibit 1. Actual future gas recovery may be lower (or higher) depending on the site's future operating practices.

The landfill gas model used by SCS is a first-order model, based on (and similar to) the U.S. Environmental Protection Agency (EPA) Landfill Gas Emissions Model (LandGEM). No gas flow data was available to use for the Contained Landfill gas recovery projection.

This recovery projection is based on our engineering judgment as of the date of this report. This report has been prepared in accordance with the care and skill generally exercised by reputable LFG professionals, under similar circumstances, in this or similar localities. No other warranty, express or implied, is made as to the professional opinions presented herein. Changes in the landfill property use and conditions (for example, in-place waste densities, variations in rainfall, water levels, landfill operations, leachate recirculation, waste composition, final cover systems, or other factors) may affect future gas generation at the site. SCS does not guarantee the quantity or the quality of available landfill gas. While the projection includes gas generated from future landfill operations, it should be noted that on-going approvals from the Kentucky Division of Waste Management (DWM) will be required for the site to keep operating as a waste disposal facility.

This letter report has been prepared exclusively for the use of the East Kentucky Power Cooperative, Inc. No other party, known or unknown to SCS, is intended as a beneficiary of this report or the information it contains. Third parties use this report at their own risk. SCS assumes no responsibility for the accuracy of information obtained from, or provided by, third-party sources.

## **PROPOSED ADDITIONS TO THE CONTAINED LANDFILL GAS COLLECTION SYSTEM**

Drawing 1 shows the proposed additions to the existing landfill gas collection system in the Contained Landfill. Two permanent vertical extraction wells and four temporary vertical extraction wells would be added to the collection system. The gas collection potential in the wells is based on adding approximately 90,000 tons of waste over the next year in the area covered by the new wells. Approximately 20 feet of waste would be added in the area covered by EW-9 and EW-11. Approximately 10 feet of waste would be added in the area covered by TW-1, TW-2, TW-3, and TW-4.

## **CONCLUSIONS**

Based on the data obtained and the updated waste projections made for this site, SCS believes the Maysville-Mason Landfill has limited potential for a LFGE facility, at this time. The anticipated gas flow from an active gas collection system with 43 percent coverage, if achieved with a system expansion by the end 2008, would generate a gas flow of 239 scfm at 50 percent methane from the Contained Landfill. LFGE at this facility may not be feasible until the landfill

Mr. Ralph Tyree  
August 29, 2007  
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has sufficient waste volumes and depths to yield a minimum of 60% coverage of the gas being generated. The gas model shows that condition occurring in 2009, however, achievement of that level of coverage will be totally based on how much waste is received and where it is placed in the landfill.

Please contact the undersigned if you have any questions regarding this report.

Sincerely,

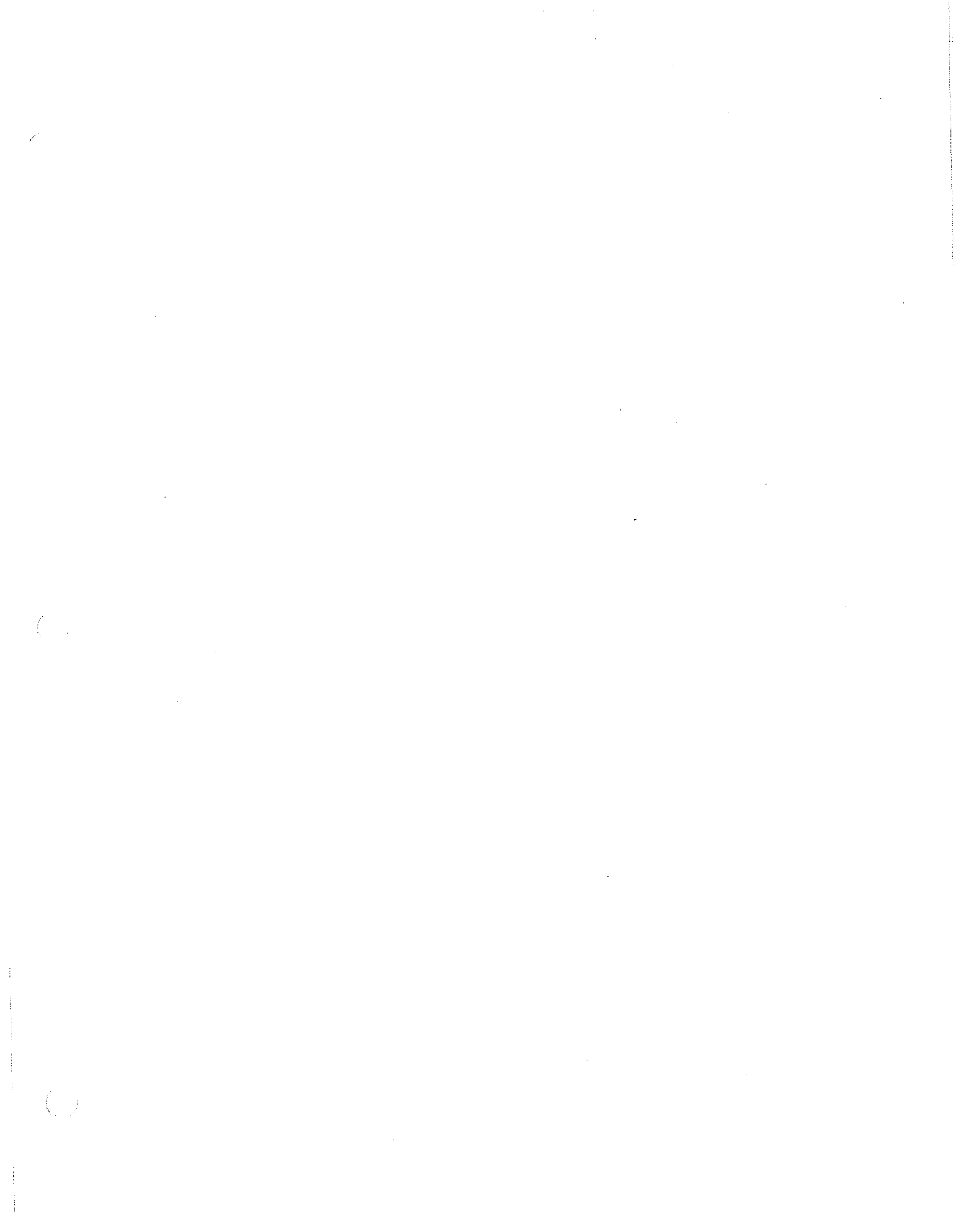
A handwritten signature in black ink, appearing to read 'Charles E. Satchwill, Jr.', with a long horizontal line extending to the right.

Charles E. Satchwill, Jr.  
Senior Project Manager  
SCS ENGINEERS

Enclosure

cc: James Gallenstein, Mason County Judge Executive  
Robert F. DeVoe, P.E., Maysville-Mason County Landfill





**LANDFILL GAS PURCHASE AGREEMENT**  
**BETWEEN**  
**MASON COUNTY FISCAL COURT**  
**AND**  
**EAST KENTUCKY POWER COOPERATIVE, INC.**  
**FOR THE**  
**MAYSVILLE-MASON COUNTY LANDFILL**

**LANDFILL GAS PURCHASE AGREEMENT**

**BETWEEN**

**MASON COUNTY FISCAL COURT**

**AND**

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**FOR THE**

**MAYSVILLE-MASON COUNTY LANDFILL**

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**LANDFILL GAS SALES AGREEMENT**  
**MAYSVILLE-MASON COUNTY LANDFILL**

This LANDFILL GAS PURCHASE AGREEMENT (the "Agreement") is made this 13<sup>th</sup> day of Nov. 2007, by and between Mason Fiscal Court, whose address is 219 Stanley Reed Court, Maysville, Kentucky 41056 ("Seller") and East Kentucky Power Cooperative, Inc., a Kentucky corporation, whose address is 4775 Lexington Road, Winchester, Kentucky 40391 ("Purchaser").

**RECITALS**

- A. Seller operates the Maysville-Mason County Landfill jointly with the Board of Commissioners of the City of Maysville, pursuant to Interlocal Cooperation Agreement between legislative bodies of such local governments, and the operation by Seller of the landfill is governed by the Landfill Committee created by the Mason Fiscal Court and the City of Maysville; and
- B. Landfill Gas, consisting primarily of methane and carbon dioxide, is produced from decomposing refuse within the Landfill; and
- C. Seller intends to construct facilities to collect Landfill Gas from the Landfill; and
- D. Seller desires to produce, deliver, and sell Landfill Gas collected in the Landfill to Purchaser; and
- E. Purchaser intends to construct a Landfill Gas to Electric ("LFGTE") facility and desires to purchase such Landfill Gas during the term of the Agreement and in accordance with its terms and conditions for purposes of generating electrical energy.

- F. The property upon which the facility will be constructed is actually owned by the City of Maysville by virtue of that certain deed of record in Deed Book 209, page 322, Mason County Court Clerk's records, and thereafter leased to the Seller by virtue of an unrecorded lease dated March 12, 1993; and
- G. Pursuant to the terms of a Site Lease Agreement entered between the parties and the City of Maysville this date date, Purchaser is leasing certain real estate from Seller and the City of Maysville at the Landfill ("Leased Premises") in order to install necessary equipment, including transmission lines, to generate electric energy and sell such energy;

THEREFORE, in consideration of the mutual agreements contained herein, and other good and valuable consideration, receipt of which is hereby acknowledged, Seller and Purchaser agree as follows:

## ARTICLE I

### PURCHASE OF LANDFILL GAS

- 1.1 **Purchase and Sale.** Subject to the terms and conditions of the Agreement, including, without limitation, the termination provision of ARTICLE IX, Seller agrees to sell to Purchaser, all existing or future Landfill Gas produced at the Landfill and Purchaser agrees to purchase from Seller, all Landfill Gas produced and delivered to Purchaser's LFGTE Facility, up to the amount needed to fully operate the LFGTE facility, which may initially include one (1) Caterpillar 3520-1600 kW engine/generator set. Purchaser plans to construct a one (1) engine plant at the site. In the event, that the site recovers more landfill gas than the Purchaser can use at the one (1) engine plant, Purchaser, at its' option, shall be allowed to expand it's facilities and shall have first right of refusal for any additional gas.

## ARTICLE II

### GAS QUALITY

- 2.1 Conforming Gas.** Seller shall deliver Landfill Gas to Purchaser at a minimum heating value of 500 Btu's per cubic foot ("Conforming Gas"). Calibration tests of the equipment shall be performed by the Purchaser at least once each month and the result of each test shall continue to be used until the results of a subsequent test are known.
- 2.2 Delivery Pressure.** Buyer shall control the amount of vacuum on the landfill with its equipment until such time as the site must meet compliance under New Source Performance Standards. At such time, the Seller shall be required to install a blower/flare skid and deliver Landfill Gas to Purchaser hereunder at a positive pressure.
- 2.3 Non-Conforming Gas.** Any Landfill Gas that does not meet the heating value specifications set forth in Section 2.1, or the delivery pressure set forth in Section 2.2 shall be deemed Non-Conforming Gas. Purchaser may elect to: (i) accept the Non-Conforming Gas, in which case the purchase price shall be \$.04/MMbtu, or (ii) reject such Non-Conforming Gas, in which event Purchaser shall not be obligated to provide payments for such Non-Conforming Gas. In addition, in the event Seller delivers Non-Conforming Gas for a continuous period of three (3) months, for any reason or cause, Purchaser shall have the option to terminate this Agreement and the Site Lease Agreement.
- 2.4 Seller's Reserved Rights.** Seller expressly excludes from this Agreement and reserves unto itself, its successors and assigns, the right, to drill new wells, to rework and repair old wells, to abandon any well, to build, test, modify, extend, repair, dispose of or discontinue the use of any or all facilities owned or installed by Seller, provided that the Seller shall comply in all material respects with New Source Performance Standards for Municipal Solid Waste



Landfills. Provided however, nothing herein shall relieve Seller from its obligations under Section 13.1 herein.

In the event that the gas collection system herein, cannot maintain a steady supply of gas above a minimum flow of 400 scfm at 50% methane concentration during the first two years of operation of the LFGTE facility, the Seller agrees to supplement the gas collection system by installing up to five (5) additional new gas wells and leachate pumps. The total expenditure shall not exceed \$40,000 for the Seller. The exact number of additional wells and final locations shall be proposed by the Parties consulting engineer(s) and agreed to by the Seller and Purchaser.

**2.5 Purchaser's Reserved Rights.** Purchaser reserves the right, at any time and in its reasonable discretion, to add or remove engines/gensets as Landfill Gas volumes would increase or decrease provided however that should the Purchaser terminate this Agreement or otherwise abandon the project herein, Purchaser shall remove all equipment and the building structure down to the concrete slab, unless the Seller and Purchaser can agree upon a sale price and terms of the sales transaction within ninety (90) days of the written notice to the Seller. By way of example, if Purchaser removes an engine/genset due to a drop off in available volumes of Landfill Gas, Purchaser shall not be responsible for payment for the associated Landfill Gas, which might have otherwise been purchased, had the engine/genset not been removed. Purchaser will use its best efforts to use all Landfill Gas delivered by the Seller. Purchaser reserves the right to monitor and make necessary well adjustments as indicated in the wellfield tuning report (Exhibit "B"), to the Seller's gas collection system in an effort to maximize gas purchases and electrical generation until such time as the site is required to meet the requirements of New Source Performance Standards for Municipal



Waste Landfills, unless otherwise agreed to in writing by both Parties. Purchaser shall provide copies of the wellfield tuning reports to the Seller for its' use in completing any environmental reporting, if applicable. Purchaser takes no legal responsibility for any reporting or compliance obligations of Seller, but Purchaser shall undertake to be familiar with all such standards as applicable to Seller and provided by Seller pertaining to the project and shall coordinate with such Seller to comply with any applicable law that may be applicable to the landfill. Seller shall obtain all necessary permits and other governmental permissions related to the landfill operations itself and shall indemnify and hold Purchaser harmless from and against all fines, penalties, sanctions, costs and other expenses, including attorneys' fees, related to the acquisition of any such permits or the violation thereof, except as may be caused by the Purchaser's negligence, intentional acts or Purchaser's violations of such permits or other applicable standards.

In the event that the gas collection system herein, cannot maintain a steady supply of gas above a minimum flow of 400 scfm at 50% methane concentration during the first two (2) years of operation of the LFGTE facility, the Purchaser agrees to reimburse the Seller \$8,0000 each for up to five (5) additional new gas wells and leachate pumps. The total expenditure shall not exceed \$40,000 for the Purchaser. The exact number of additional wells and final location shall be proposed by the Parties consulting engineer(s) and agreed to by the Seller and Purchaser.

### ARTICLE III

#### UNITS OF VOLUME – MEASUREMENT

- 3.1 **Unit of Volume.** Except for the determination of heating value, the unit of volume for measurement of Landfill Gas delivered hereunder will be one (1) cubic foot of Landfill Gas

at a base temperature of sixty (60) degrees Fahrenheit and at an absolute pressure of 14.73 pounds per square inch. All fundamental constants shall be in accordance with the standards prescribed in the National Standard ANSI-API 2530, Second Edition, as reprinted in September 1986, with any subsequent amendments which may be mutually acceptable to Purchaser and Seller.

### **3.2 Landfill Gas Metering.**

- a. Metering Equipment. Purchaser shall provide and maintain in accurate working order, metering devices for the measurement of the Btu value of the Landfill Gas delivered hereunder at Purchaser's sole cost and expense. Such metering equipment shall include a Daniel Process Gas Chromatograph, Carrier Gas System, Calibration Gas Cylinder, 10" Free Standing Rack and Sample Conditioning System or equal system. The Landfill Gas shall be sampled and measured at a point on the main gas header between the LFGTE gas compressor room and engine room.
- b. Meter Tests. Purchaser, at its sole cost and expense, shall keep the metering equipment accurate and in repair, making such periodic tests as Purchaser deems necessary, but at least once each month. Purchaser shall give Seller reasonable advance notice of any such test so that Seller may have its representative present. Seller may request a special test of the metering equipment at any time.
- c. Meter Out of Service. If for any reason Purchaser's metering equipment is out of service or out of repair so that the amount of Landfill Gas delivered can not be ascertained, Purchaser shall estimate the Landfill Gas deliveries during the period when the metering equipment is out of service or out of repair based on upon a 9,000 Btu/Kwh heat rate for the engine/genset(s). By way of example:

(Net kWh for the period)(9,000 Btu/kWh)(Purchase Price of Gas)/1,000,000 = \$'s for  
Landfill Gas used during the period.

#### ARTICLE IV

#### PRICE, BILLING, PAYMENT AND INCENTIVE

**4.1 Purchase Price.** Effective upon the commercial operation date of the LFGTE Facility (“Operational Date”), the initial purchase price for Conforming Landfill Gas delivered to Purchaser pursuant to the terms of the Agreement shall be a base price of \$0.25 per MMBtu, subject to the annual adjustment of Section 4.4. The purchase price shall be adjusted on a monthly basis either up or down as follows depending upon the plant capacity factor achieved during the month as follows:

<u>Capacity Factor</u>	<u>\$/MMBtu</u>
95% to 100%	0.45
90% to 94%	0.42
80% to 89%	0.35
70% to 79%	0.25
69 % or less	non-conforming gas rate

Plant Capacity factor shall be calculated the same as reported by EKPC on it's RUS Form 12 and as follows:

Plant Capacity Factor = (Gross kWh generated)/( hrs in period \* unit capacity rating) \* (100).

Each unit shall have a rated capacity of 1600 kW.

**4.2 Annual Rate Adjustment.** The purchase price for Conforming Landfill Gas shall be adjusted annually, on each anniversary date of the completion of the Purchaser's Facilities as defined in Section 7.2, in a percentage amount equal to one hundred (100) percent of the

increase or decrease in the Consumers Price Index, All Urban Consumers (or any successor index) over the most recently reported twelve (12) month period.

4.3 **Rounding**. The price for Landfill Gas determined pursuant to this ARTICLE IV shall be rounded to the nearest one tenth of one cent (\$0.001).

4.4 **Billing and Payment**.

- a. **Billing**. On or before the tenth (10<sup>th</sup>) day of each calendar month, Seller shall send a statement to Purchaser of all Conforming Gas delivered and any Non-Conforming Gas delivered and accepted by Purchaser for the preceding calendar month (“Billing Statement”). Such Billing Statement shall set forth the quantity of Conforming Landfill Gas and Non-Conforming Gas, on a MMBtu basis, delivered to Purchaser during the preceding calendar month and the amount due Seller for such Landfill Gas. Purchaser shall provide to Seller payment for the amounts due and owing under the terms of this Agreement on a monthly basis, on or before the thirtieth (30<sup>th</sup>) day of the succeeding month. If Purchaser, in good faith, disputes any part of the Billing Statement, Purchaser shall pay the portion of such Billing Statement conceded to be correct. The amount of such disputed billing determined by the Parties to be correct shall be paid within ten (10) days of such determination, along with interest as specified in Paragraph 4.4.c.
- b. **Errors in Billing**. If either Party hereto shall find any time within one (1) year after the date of any payment hereunder that there has been an overcharge or undercharge, the Party finding the error shall promptly notify the other Party in writing. In the event of an undercharge, Purchaser shall pay any undisputed amount due, plus interest, within thirty (30) days of the date of the notice of error. In the event of an overcharge, Seller

shall refund any undisputed overpayment to Purchaser, plus interest, within thirty (30) days of the date of the notice of error. In the event of disputes about the validity or amounts of such payment errors, the parties agree to attempt to mutually resolve such disputes, and the appropriate party will make payment to the other party of any amounts so determined, plus interest, within thirty (30) days of such resolution.

- c. Interest. Interest shall accrue on any amount over paid or not paid on or before the due date therefore at a rate equal to one (1) percent plus the prime rate of Citibank, N.A., New York, New York, or its successor.

## ARTICLE V

### TAX CREDITS

- 5.1 Tax Credits. All Internal Revenue Code Section 29 Tax Credits or any other similar state, federal, or local credits or deductions available to landfill gas producers and arising from the Seller's production and sale of Landfill Gas from the Landfill ("Credits") shall be the property of Seller. Purchaser shall have the right to all tax credits or any other similar state, federal, or local credits or deductions or payments arising from the generation and sale of electricity using Landfill Gas as a fuel (as opposed to the production and sale of Landfill Gas), including, without limitation, Renewable Energy Production Incentive Payments from the U.S. Department of Energy. Neither Party shall take any actions including, by way of example, taking or claiming other tax credits, which would in any way reduce the amount of the Credits or Renewable Energy Production Incentives to which the other Party is otherwise entitled.
- 5.2 Emissions Credits. All air emission credits arising from Seller's production and sale of Landfill Gas from the Landfill prior to the delivery point shall be the property of Seller.

All air emission credits arising from the Purchaser's production of electricity and purchase of the Landfill Gas after reaching the delivery point shall be the property of the Purchaser.

## ARTICLE VI

### POINT OF DELIVERY

**6.1 Point of Delivery.** The Point of Delivery for all Landfill Gas sold hereunder shall be at the interconnection between Purchaser's Facilities and Seller's Facilities approximately ten (10) feet outside the LFGTE Gas Compressor Room. Title to and control and possession of the Landfill Gas sold hereunder shall pass to Purchaser at the Point of Delivery.

## ARTICLE VII

### FACILITIES

**7.1 Seller's Facilities.** Seller shall bear the expense of and duty to construct (if applicable), maintain, and operate Seller's Facilities. Seller's Facilities shall include, without limitation:

- a. All equipment required to collect and process the Landfill Gas and to deliver such Landfill Gas from the residential and contained landfill to the Point of Delivery and remove condensate and leachate from the Purchaser's Facilities at the Point of Delivery. The equipment shall include all present and six (6) additional landfill gas wells (including a leachate pump in each well and as indicated on the drawing prepared by SCS Engineers, dated September 2007 and enclosed as Site Lease Attachment I), valves, connectors, sampling ports and piping. The final location of these six (6) new wells shall be recommended by the Parties consulting engineer(s) and approved by both Seller and Purchaser;

- b. All equipment required to be owned by Seller in order to claim entitlement to the Credits;
- c. All equipment required to flare the Landfill Gas, if applicable, including a manual bypass line to allow delivery of Landfill Gas to the LFGTE facility in the event that the Seller's blower/flare skid is temporarily out of service due to maintenance. Seller's blower/flare skid, if applicable, shall be electrically interlocked with the Purchaser's facilities to allow flaring of any excess Landfill Gas or in the event of an outage at the Purchaser's facilities;
- d. Seller will install a 6" landfill gas supply line from the old residential landfill, connecting at the existing flare station and tying into the landfill gas supply line between the new contained landfill and the Purchaser's LFGTE facility to supplement the gas recovery from the new contained landfill. The Purchaser shall reimburse the Seller in a timely manner, the actual cost of the new supply line, not to exceed \$100,000;
- d. At all times during the term hereof, Seller's Facilities shall be designed, constructed, and operated in compliance with all applicable laws and regulations.

Seller will notify Purchaser of its construction schedule for Seller's Facilities, including its Landfill Gas Collection System, at least 15 days in advance of the scheduled start of construction of such Facilities, and no later than February 15, 2008, and shall diligently pursue the completion of the Facilities consistent with the construction schedule and shall complete its Facilities no later than the milestones set forth in Exhibit A, attached hereto, and in compliance with the construction schedule provided to Purchaser.

Completion of such Facilities shall mean that the Facilities are capable of sustained

normal operation in compliance with all relevant specifications provided herein. Seller shall notify Purchaser at least 15 days in advance of the completion of such facilities.

**7.2 Purchaser's Facilities.** At no cost to Seller, Purchaser shall permit, construct, operate, and maintain all facilities necessary to enable Purchaser to accept delivery of Landfill Gas from Seller at the Point of Delivery and to generate electrical energy for sale ("Purchaser's Facilities"). Purchaser's Facilities shall include, without limitation:

- a. All piping suitable to transport Landfill Gas from the Point of Delivery to the Purchaser's electrical generating equipment;
- b. Any piping necessary to convey condensate from Purchaser's Facilities to Seller's leachate/condensate collection system at the Point of Delivery;
- c. One or more engine/gensets for the generation of electricity, the exact number of which Purchaser may determine and change at any time, in its reasonable discretion; and
- d. All transmission lines and equipment from the Purchaser's Facilities to the interconnection point at the transmission or distribution system.

Purchaser shall be responsible for all costs and expenses to permit, construct, maintain, and operate Purchaser's Facilities. At all times during the term hereof, Purchaser's Facilities shall be designed, constructed, and operated in compliance with all applicable laws and regulations including, without limitation, environmental laws and regulations. Upon expiration or termination of this Agreement for any reason, Purchaser, at Purchaser's sole expense, shall have the right to remove all above-ground Purchaser's Facilities located on Seller's property, unless the Seller has expressed an interest in acquiring the facilities and a purchase price and terms can be agreed upon within ninety (90) days of Purchaser's written notice of termination or expiration. In the event that Purchaser elects to remove such facilities, Purchaser shall, at its sole



cost, cap the pipeline and take all steps required by applicable law and regulation in connection with the abandonment of the pipeline and other underground facilities and structures.

Purchaser shall be under no obligation to begin the construction of its Facilities until the Seller begins construction of its gas collection system. Purchaser shall strive to construct and install Purchaser's Facilities in accordance with the schedule for the completion of Seller's Facilities, and shall complete Purchaser's Facilities within 60 days of the actual completion of Seller's Facilities. Completion of Purchaser's Facilities shall mean that such facilities are capable of sustained normal operation for the generation of electricity.

## ARTICLE VIII

### AUTHORITY AND PERMITS

8.1 **Permits; Authorizations.** Seller and Purchaser each, at their own respective expense, shall obtain and maintain all permits, authorizations, easements, and rights-of-way required for the performance of its obligation hereunder, using reasonable efforts to obtain and maintain the permits and authorizations necessary for the operation of the Landfill Gas collection system and operation of those other facilities required in order to fulfill their respective obligations hereunder. Each Party shall provide the other Party, prior to the start of construction of the Purchaser's Facilities, written notification that all required permits and authorizations have been received as well as a copy of such permits and authorizations. Purchaser's permits, authorizations, easements, right-of-way, including those for transmission or distribution lines, shall include approvals of the Project by the EKPC Board of Directors ("Board"), Public Service Commission ("PSC"), Rural Utilities Service ("RUS"), if applicable, and the issuance of an air permit by the Kentucky Department of Air Quality. The Seller's permits, authorizations, easements,

and right-of-way shall include not applicable.

This Agreement is expressly contingent upon the Parties securing all such necessary permits and authorizations, pursuant to the provisions of Section 13.5.

**8.2 Public Utility Status.** Seller does not intend to hold itself out as a public utility or to submit to the public utility jurisdiction of the PSC, or any other state or federal regulatory agency by reason of the production, delivery, or sale of Landfill Gas hereunder or by reason of the generation of electric energy and capacity using Landfill Gas; provided however, that both Parties agree to submit to the jurisdiction of any agency that administers laws or regulations concerning pipeline safety or other matters relating to the safe handling of Landfill Gas. To that end, each Party may, in its sole discretion, seek a ruling from any such agency or other assurance satisfactory to such Party that the extrication, delivery, or sale of Landfill Gas will not subject such Party to the jurisdiction of such agency.

**8.3 Mutual Assistance.** Upon request, the Parties hereto shall use reasonable efforts to support and assist one another in the acquisition of any required permit or authorization. Such support shall include, without limitation, participation in regulatory proceedings and provision of information concerning each Party's operations. This obligation of assistance shall not require either Party to take actions, or assert positions in regulatory proceedings, which would result in adverse impacts on the Party's other business interests.

## ARTICLE IX

### TERM AND RIGHT TO TERMINATE

- 9.1 **Term.** The Term of this Agreement shall commence on the date first written above and shall continue for an initial term of twenty (20) years. In the event Purchaser is not in breach of the terms of this Agreement, Purchaser shall have the option to extend the term of this Agreement for up to three (3) additional terms of five (5) years, upon provision of written notice to Seller no later than one hundred eighty (180) days prior to the expiration of the existing term.
- 9.2 **Seller's Right to Terminate.** Seller may terminate this Agreement by written notice to Purchaser upon the occurrence of any of the following events:
- a. At any time during the term of this Agreement, the PSC, or any other regulatory or legislative body, asserts jurisdiction over Seller as a public utility and requires that Purchaser pay Seller a lower price for Landfill Gas purchased hereunder than that price otherwise provided under this Agreement; or
  - b. Purchaser fails to perform its obligations under this Agreement due to an event of Force Majeure which lasts longer than three (3) months; or
  - c. The initiation of an involuntary proceeding against Purchaser under the bankruptcy or insolvency laws, which involuntary proceeding remains undismissed for one hundred twenty (120) consecutive days, or the initiation by the Purchaser of a voluntary proceeding under the bankruptcy or insolvency laws, in which case Purchaser shall provide written notice to the Seller; or
  - d. Termination of the Site Lease Agreement, pursuant to the terms of such Site Lease Agreement; or

- e. Purchaser fails to perform any material obligation hereunder, and fails to cure such failure to perform within sixty (60) days after receipt of Seller's notice of such failure of performance, or if such cure cannot reasonably be completed in sixty (60) days, Purchaser fails to promptly initiate and implement such cure in a prompt fashion and cure such failure in a reasonable time.

Upon termination by Seller pursuant to item a, b, c or d of this Section 9.2: (i) Purchaser shall remain obligated to pay Seller for all Landfill Gas previously delivered hereunder at the price in effect on the date of delivery, calculated pursuant to ARTICLE IV, and (ii) the indemnification obligations of Section 12.1 shall remain in effect. All other obligations of the Parties hereunder shall cease upon such termination pursuant to items a, b, c or d; provided, however, that upon termination by Seller pursuant to item e of this Section 9.2, Seller may pursue its legal or equitable remedies for breach of this Agreement by Purchaser

**9.3 Purchaser's Right to Terminate.** Purchaser may terminate this Agreement by written notice to Seller upon the occurrence of any of the following events:

- a. At any time during the term of this Agreement, the PSC, or any other regulatory or legislative body, takes any actions which: (i) prohibit Purchaser's use of Landfill Gas for generation of electricity, (ii) significantly adversely affect the economics of such generation of electricity, or (iii) requires that Purchaser pay Seller a higher price for Landfill Gas purchased hereunder than the price otherwise allowed under this Agreement; or
- b. Seller fails to perform its obligations under this Agreement due to an event of Force Majeure which lasts longer than three (3) months; or

- c. Seller fails to provide Purchaser with a schedule for the construction of Seller's Facilities, pursuant to Section 7.1, hereinabove, by February 15, 2008.
- d. The initiation of an involuntary proceeding against Seller under the bankruptcy or insolvency laws, which involuntary proceeding remains undismissed for one hundred twenty (120) consecutive days, or the initiation by the Seller of a voluntary proceeding under the bankruptcy or insolvency laws, in which case Seller shall provide written notice to Purchaser; or
- e. Termination of the Site Lease Agreement, pursuant to the terms of such Site Lease Agreement; or
- f. Seller fails to perform any material obligation hereunder, and fails to cure such failure to perform within ninety (90) days after receipt of Purchaser's notice of such failure of performance, or if such cure cannot reasonably be completed in ninety (90) days, Seller fails to promptly initiate and implement such cure in a prompt fashion and cure such failure in a reasonable time; or
- g. Seller fails to provide Purchaser with a minimum of 250 SCFM Conforming Landfill Gas as defined in Section 2.1 to operate one (1) LFGTE unit for thirty (30) cumulative days in any three hundred sixty-five (365) day period.

Upon termination by Purchaser pursuant to items a, b, c, d or e of this Paragraph 9.3: (i)

Purchaser shall remain obligated to pay Seller for all Landfill Gas previously delivered hereunder at the price in effect on the date of delivery, calculated pursuant to ARTICLE IV, and (ii) the indemnification obligations of Section 12.1 shall remain in effect. All other obligations of the Parties hereunder shall cease upon such termination pursuant to items a, b, c, d, or e; provided, however, that upon termination by Purchaser pursuant to item f or g

of this Section 9.3, Purchaser may pursue its legal or equitable remedies for breach of this Agreement by Seller.

## **ARTICLE X**

### **TAXES**

**10.1 Liability for Taxes.** Seller shall pay or cause to be paid all taxes and assessments imposed on Seller with respect to the sale of Landfill Gas, the ownership of the Landfill, Seller's Facilities, and associated equipment. Purchaser shall pay or cause to be paid all taxes and assessments imposed upon Purchaser with respect to the purchase of Landfill Gas and the ownership of Purchaser's Facilities and associated equipment. Neither Party shall be responsible or liable for any taxes nor any other statutory charges levied or assessed against any of the facilities of the other Party used for the purpose of carrying out the provisions of this Agreement.

## **ARTICLE XI**

### **FORCE MAJEURE**

**11.1 Suspension of Obligations.** If either Party is rendered unable, wholly or in part, by Force Majeure to carry out its obligations under this Agreement, it is agreed that upon such Party giving notice, including details concerning such Force Majeure, in writing or by facsimile to the other Party as soon as possible after the occurrence of the cause relied on, then the obligations of the Party giving such notice, including the obligation to make payments due hereunder, so far as they are affected by Force Majeure, shall be suspended during the continuance of any such inability so caused, but for no longer period, and such cause shall, as far as possible, be remedied with all reasonable dispatch.

**11.2 Definition of Force Majeure.** The term "*Force Majeure*" as used herein shall include, but not be limited to, acts of God, fires, storms, lightning, floods, earthquakes, explosions, war, public disorder, accidents, casualty, changes in laws or regulations or other governmental acts, revocation or the inability to obtain permits & licenses after making reasonable efforts, labor disturbances, or any other event of similar cause not reasonably within the control of the affected Party and which, by the exercise of reasonable diligence, such Party is unable to prevent or overcome. Force Majeure shall not include the unavailability of or delays in delivery of any product, labor, fuel, service, or materials unless caused by an event that would otherwise be defined herein as an event of Force Majeure.

**11.3 Strikes or Lockouts.** It is agreed that the settlement of strikes or lockouts shall be entirely within the discretion of the Party having the difficulty, and, that the foregoing requirement that any Force Majeure shall be remedied with all reasonable diligence shall not require the settlement of strikes or lockouts when such course is inadvisable in the discretion of the Party having the difficulty.

## **ARTICLE XII**

### **INDEMNITY**

**12.1 Indemnification.** Each Party shall defend, indemnify, and hold the other Party, its directors, officers, partners, shareholders, employees, agents, representatives, co-ventures, tenants, contractors, or servants harmless from and against any and all claims, penalties, demands, actions, proceedings, settlements, liability, or losses of whatsoever nature, including reasonable attorneys fees, for injury or death to person(s) or for damage or loss to or of property to the extent arising out of or caused by: (i) a breach of this Agreement by the indemnifying Party, or (ii) the indemnifying Party's intentional or negligent operations or

activities hereunder. In no event shall either Party be liable to the other for loss of anticipated profits or consequential, special, or punitive damages.

### ARTICLE XIII

#### SELLER'S AND PURCHASER'S OBLIGATIONS

**13.1 Seller's Obligations.** Seller's primary obligation and business purpose is the safe, efficient, and economical management of its Landfill and Landfill Gas production system in accordance with any and all federal, state, and local laws, rules, regulations, ordinances, and orders. Seller shall operate and manage its Landfill in such manner, as Seller deems advisable. Seller agrees not to unreasonably interfere with the operation and maintenance of Purchaser's Facilities or, consistent with the provisions set forth above, to cause an intentional, material disruption of delivery of Landfill Gas to Purchaser's Facilities. Seller shall inform Purchaser of operational changes or decisions which might reasonably and materially affect Landfill Gas production within a reasonable period before such changes are made, and shall use reasonable efforts to minimize any adverse impact of such changes on operations on the supply of Landfill Gas to Purchaser. Seller shall take action to make any repairs to the gas collection system within five (5) days of discovery, which reduces the quantity or quality of landfill gas used to generate electricity, excluding a force majeure event. Should the Seller not take action or complete all repairs within fifteen (15) days of discovery, the Purchaser may elect to hire a contractor to complete this work and withhold the cost of performing this work from future gas payments due the Seller. Seller shall provide to Purchaser in a timely manner, copies of all gas collection system inspection reports, changes to any of the Seller's environmental reporting standards, requirements or



procedures, permits or permit modifications that may influence, change or modify the monitoring or wellfield tuning by the Purchaser.

**13.2 Purchaser's Condensate.** Purchaser's Condensate may be tested by both Seller and Purchaser, at each testing Party's sole expense, to determine if, when combined with that leachate and condensate extracted from the Landfill by Seller, Purchaser's Condensate will be acceptable either for recirculation or for disposal at the local Publicly Owned Treatment Works ("POTW"). If Purchaser's Condensate, when combined with Seller's leachate and condensate, is acceptable either for recirculation or disposal, Seller shall accept and bear the cost of lawfully disposing of Purchaser's Condensate combined with Seller's leachate and condensate. *If Purchaser's Condensate, when combined with Seller's leachate and condensate is not acceptable for recirculation or disposal, Purchaser shall bear any costs of disposal of Purchaser's Condensate.* Purchaser shall take appropriate action to ensure there is no spillage or unintentional discharge of Purchaser's Condensate into the environment. Purchaser shall notify Seller of any known changes in the chemical composition of Purchaser's Condensate, or in the event Purchaser undertakes any changes in its process, which might result in such chemical composition changes.

**13.3 Purchaser's Obligations.** Purchaser shall be solely responsible for the processing of Landfill Gas from the Delivery Point to Purchaser's Facilities for the generation of electricity. Purchaser shall operate Purchaser's Facilities in a reasonably prudent manner and in accordance with the terms of this Agreement. Purchaser shall conduct its activities under this Agreement in such a manner as not to unreasonably interfere with Seller's use of the Landfill, unless Seller otherwise consents in writing. The noise levels produced by Purchaser's Facilities shall not cause a nuisance to the surrounding community, nor shall

such noise exceed, at the boundaries of the Landfill, applicable state or local standards for noise. Noise from Purchaser's Facilities resulting in complaints and/or legal actions shall be the sole responsibility of Purchaser, and Purchaser shall indemnify and hold Seller harmless from such liability.

**13.4 Environmental Matters.**

- a. Should New Source Performance Standards or other similar air standards be deemed applicable to the Purchaser's Facilities which combust Landfill Gas, such facilities shall meet all applicable NMOC (non-methane organic compounds) destruction standards, at Purchaser's sole cost and expense.
- b. Should New Source Performance Standards or other similar air standards be deemed applicable to the Seller's Facilities which produce and collect Landfill Gas, such facilities shall meet all applicable standards, at Seller's sole cost and expense.
- c. Purchaser shall construct, operate, and maintain Purchaser's Facilities and its Generating Equipment, and shall otherwise conduct its activities hereunder, in full conformance with all applicable environmental laws, regulations, and ordinances.
- d. Seller and Purchaser, respectively, shall be responsible for any stack testing required for Seller's Facilities and Purchaser's Facilities, respectively.

**13.5 Contingencies.** This Agreement is expressly contingent upon each of the respective Parties securing all necessary permits and authorizations, as set forth in ARTICLE II and ARTICLE VIII. In the event the above contingency is not satisfied or waived within one hundred eighty (180) days from the execution of this Agreement, this Agreement may be terminated by either Party upon written notice, and the Parties shall have no liabilities or further obligations to each other. This right of either Party to terminate this Agreement shall

end if, prior to the issuance of any valid notice of termination hereunder, the required permits or authorizations are obtained by the other Party.

#### ARTICLE XIV

##### WARRANTIES, REPRESENTATIONS, AND RESERVED RIGHTS

**14.1 Purchaser's Representations and Warranties.** Purchaser represents and warrants to

Seller as follows:

- a. Purchaser is an Electric Cooperative Corporation duly organized and validly existing under the laws of the Commonwealth of Kentucky, with full legal right, power, and authority to enter into and to fully and timely perform its obligations hereunder;
- b. Purchaser has duly authorized, executed, and delivered this Agreement and this Agreement constitutes a legal, valid, and binding obligation, enforceable against Purchaser in accordance with its terms;
- c. Neither the execution or delivery by Purchaser of this Agreement, nor the performance by it of its obligations in connection with the transactions contemplated hereby or the fulfillment of the terms and conditions hereof conflicts with, violates, or results in a breach of any constitution, law, or governmental regulation applicable to it, or materially conflicts with, violates, or results in a breach of any term or condition of any order, judgment, or decree or any agreement of instrument to which Purchaser is a Party or by which Purchaser or any of its properties or assets are bound, or constitutes a default thereunder;
- d. To the Purchaser's knowledge and belief, no approval, authorization, order, consent, declaration, registration, or filing with any federal, state, or local governmental authority or referendum of voters is required for the valid execution and delivery of this

Agreement by Purchaser, except such as have been disclosed to Seller or have been duly obtained or made; and

- e. Purchaser has no knowledge of any action, suit, or proceeding, at law or in equity, before or by any court or governmental authority, pending or threatened against Purchaser, in which an unfavorable decision, ruling, or finding would materially adversely affect the performance by Purchaser of its obligations hereunder, or that, in any way, would materially adversely affect the validity or enforceability of this Agreement.

**14.2 Seller's Representations, Warranties, and Reserved Rights.** Seller represents and warrants to Purchaser as follows:

- a. Seller is a political subdivision of the Commonwealth of Kentucky organized and validly existing under the laws of the Kentucky, with full legal right, power, and authority to manage the Maysville-Mason County Landfill and to enter into and to fully and timely perform its obligations hereunder, subject to the approval of the Landfill Committee of Seller and the City of Maysville, which met on October 17, 2007, and unanimously approved the agreement and authorized Seller to enter same.;
- b. Seller has duly authorized, executed, and delivered this Agreement and this Agreement constitutes a legal, valid, and binding obligation, enforceable against Seller in accordance with its terms;
- c. Neither the execution or delivery by Seller of this Agreement, nor the performance by it of its obligations in connection with the transactions contemplated hereby or the fulfillment of the terms and conditions hereof conflicts with, violates, or results in a breach of any constitution, law, or governmental regulation applicable to it, or

materially conflicts with, violates, or results in a breach of any term or condition of any order, judgment, or decree or any agreement of instrument to which Seller is a Party or by which Seller or any of its properties or assets are bound, or constitutes a default thereunder;

- d. To the Seller's knowledge and belief, no approval, authorization, order, consent, declaration, registration, or filing with any federal, state, or local governmental authority or referendum of voters is required for the valid execution and delivery of this Agreement by Seller, except such as have been disclosed to Purchaser or have been duly obtained or made;
- e. Seller has no knowledge of any action, suit, or proceeding, at law or in equity, before or by any court or governmental authority, pending or threatened against Seller, in which an unfavorable decision, ruling, or finding would materially adversely affect the performance by Seller of its obligations hereunder, or that, in any way, would materially adversely affect the validity or enforceability of this Agreement.

## ARTICLE XV

### INSURANCE

- 15.1 Insurance Requirements.** At all times during the term of this Agreement, each Party shall, at its sole cost and expense, procure and maintain the following insurance coverage:
- a. Workers Compensation Insurance, covering liability under applicable Workers Compensation law, at the statutory coverage levels, including employer's liability insurance in an amount not less than \$100,000 for each accident; and
  - b. Comprehensive general liability and property damage insurance in a combined single limit of not less than \$3,000,000 for death or injury to any person(s) or for property

damage as a result of or in connection with the operation of its facilities required for the performance of its obligations hereunder.

**15.2 Certificate of Insurance.** Each Party shall provide the other Party with a Certificate of Insurance showing the other Party as an additional insured except for worker's compensation and employers liability insurance, on each of the above policies of insurance and shall provide for thirty (30) days written notice to the other Party in advance of any termination or material change in coverage, and such policies shall contain a waiver of subrogation rights.

## **ARTICLE XVI**

### **DISPUTE RESOLUTION**

**16.1 Dispute Resolution.** In the event of disputes, each Party will select a representative of its senior management to meet in person and attempt to resolve such disputes before either Party exercises any judicial rights, which may be available. The Parties may elect, upon mutual agreement, to submit any such dispute to arbitration or mediation. Pending the resolution of any dispute, Purchaser shall continue to operate Purchaser's Facilities in a manner consistent with this Agreement and Seller shall continue to provide Landfill Gas in accordance with the applicable provisions of this Agreement.

## **ARTICLE XVII**

### **MISCELLANEOUS**

**17.1 Assignment.** Except as provided hereinbelow, neither Party shall assign this Agreement or its rights hereunder without the prior written consent of the other Party, which consent shall not be unreasonably withheld or delayed. Upon any assignment made in compliance with this Section 17.1, this Agreement shall inure to and be binding upon the successors and assigns of the assigning Party and without relieving the assigning Party from liability

hereunder. Nothing herein shall in any manner restrict the Parties from assigning rights hereunder to the RUS, the National Rural Cooperative Finance Corporation ("CFC"), or any other third party lender for financing purposes.

**17.2 Notices.** Any notice, request, demand, statement, and/or payment provided for herein shall be in writing and, except as otherwise provided herein, shall be sent to the Parties hereto at the following addresses:

Purchaser: East Kentucky Power  
Cooperative, Inc.  
4775 Lexington Road  
Winchester, Kentucky 40391  
Attention: Mr. Ralph Tyree

Seller: Mason County Fiscal Court  
221 Court Street  
Maysville, KY 41056  
Attention: Hon. James L. Gallenstein

All payments made by the Parties shall be sent to the applicable address shown above.

Such notices, etc., shall be deemed to have been given and received when personally delivered or upon receipt as evidenced by a U.S. Postal Service Receipt for Certified Mail or by evidence of delivery by a private express mail service. Either Party may change the address to which communications or payments are to be made by written notice to the other Party as set forth above.

**17.3 Integration and Amendments.** This Agreement is intended by both Parties as the expression of their agreement with respect to the subject matter, both written and oral, and supersedes all previous Agreements. This Agreement may be modified only by a written amendment executed by both Parties.

**17.4 No Waiver.** The waiver by either Purchaser or Seller of any failure on the part of the other Party to perform any of its obligations under this Agreement shall not be construed as a waiver of any future or continuing failure or failures, whether similar or dissimilar thereto.

**17.5 Choice of Law.** This Agreement and any provisions contained herein shall be interpreted under the laws of the Commonwealth of Kentucky.

**17.6 Economic Grants.** The Parties may seek to obtain any and all local, state, or federal economic development, recycling, environmental, and other grants and/or benefits for which they may be eligible as a direct result of their respective rights, obligations, and performance hereunder, and the Parties shall coordinate and cooperate with each other in that regard.

**17.7 Equal Employment Opportunity.** The Equal Employment Opportunity Clause at 41 CFR 60-1.4 (a) and the Affirmative Action Clauses at 41 CFR 60-250.5 and 60-741.5 are hereby incorporated by reference and made a part of this Contract as though fully set forth herein.

**IN WITNESS WHEREOF,** the Parties hereto have caused the execution of this Agreement by the officers whose names appear below as of the date first written above.

Attest: Claudia W. Embre

**EAST KENTUCKY POWER  
COOPERATIVE, INC.**

By: Robert M. Marshall

Printed Name: Robert M. Marshall

Title: President and CEO

Attest: Amy Ashew

**MASON FISCAL COURT**

By: Hon. James L. Gallenstein

Printed Name: Hon. James L. Gallenstein

Title: Judge Executive



# **Maysville-Mason County Gas**

## **Purchase Agreement**

### **Exhibit “A”**

# **Maysville-Mason County Gas**

## **Purchase Agreement**

### **Exhibit “A”**

**EXHIBIT "A"**

**MAYSVILLE-MASON COUNTY LANDFILL  
GAS PURCHASE AGREEMENT  
MILESTONE SCHEDULE**

<b>Activity</b>	<b>Milestones</b>
<b>Gas Collection System Design to Purchaser for Review</b>	<b>Jan 15, 2008</b>
<b>Notification that all necessary approvals have been obtained</b>	<b>May 13, 2008</b>
<b>Submission of Construction Schedule by Seller</b>	<b>Feb 15, 2008</b>
<b>Start of Construction of the Gas Collection System</b>	<b>July 21, 2008</b>
<b>Start of Construction of the LFGTE Facility</b>	<b>June 15, 2008</b>
<b>Completion of the Gas Collection System</b>	<b>Oct 15, 2008</b>
<b>Completion of the Purchaser's LFGTE Facilities</b>	<b>Nov 15, 2008</b>



**12.0 Exhibit B: Landfill Gas Purchase Agreement  
Site Lease  
Site Lease Drawing**

# **Maysville-Mason County Gas**

## **Purchase Agreement**

### **Exhibit “B”**



**Maysville-Mason County**

**Landfill**

**Site Lease Agreement**

# **Maysville-Mason County**

## **Site Lease Agreement**

### **Attachment 1**



## SITE LEASE AGREEMENT

This Site Lease Agreement ("Lease") is made this 13<sup>th</sup> day of Nov., 2007 by and between Mason Fiscal Court, whose address is 221 Stanley Reed Court, Maysville, Kentucky 41056 and the City of Maysville, whose address is 216 Bridge Street, Maysville, KY 41056 (collectively referred to as "Lessor") and East Kentucky Power Cooperative, Inc. a Kentucky corporation whose address is 4775 Lexington Road, Winchester, Kentucky 40391 ("Lessee") and singularly or collectively referred to as the Party or Parties.

### WITNESSETH:

1. Property Description. Lessor, in consideration of the rents and obligations to be paid and performed by Lessee, does hereby lease to Lessee the premises described as the "Leasehold Area" in Attachment "1" ("Leased Premises"). The subject real property is a portion of the same property conveyed to the City of Maysville by deed of record in Deed Book 209, page 322, Mason County Court Clerk's records, and thereafter leased to the Mason Fiscal Court pursuant to an unrecorded lease between such parties, and such real property being operated as the Maysville-Mason County Landfill by the Mason Fiscal Court pursuant to the Interlocal Cooperation Agreement with the City of Maysville. In addition, Lessor hereby grants to Lessee, its agents, employees and contractors, the right of ingress and egress to and from the Leased Premises, as may be reasonably necessary to allow Lessee to perform its obligations under this Lease and the Gas Purchase Agreement.

2. Term. The term of this Lease shall be concurrent with the term of the Landfill Gas Purchase Agreement ("Gas Agreement") executed of even date between the Parties, subject to Lessee's right of access to the Leased Premises, as set forth in Paragraph 6d below.

3. Quiet Enjoyment. Lessor covenants that Lessee, by paying the rents and observing its obligations under this Lease, shall lawfully and peaceably hold, occupy and enjoy the Leased Premises during the term herein created, or any extension thereof. Lessor agrees that any mortgage or other lien instrument, which Lessor may place upon the Leased Premises shall be expressly subject to the terms of this Lease.

4. Easements. Lessor agrees to grant to Lessee, together with its agents and contractors retained in connection with the Landfill Gas to Electric ("LFGTE") facility, nonexclusive easements appurtenant to this Lease as are reasonably necessary for the interconnection of the LFGTE facility to electric, sewage system, water, phone and other utilities.

5. Rent. Commencing on the effective date of this Agreement, Lessee shall pay annual rent in the amount of \$100.00.

6. Construction and Purchase of Improvements and Equipment

a. Lessee shall be permitted to install and maintain on the Leased Premises any and all equipment reasonably necessary for the processing of Landfill Gas and conversion of same to electrical energy, including without limitation, Purchaser's Facilities, as such term is defined in the Gas Agreement, (hereinafter referred to as "Improvements"), at Lessee's sole cost and expense.

b. Lessee may, at its option and at its own cost and expense, at any time and from time to time, make such alterations, changes, replacements, improvements, and additions in and to the Improvements as Lessee may deem desirable. Lessee will not permit the Leased Premises to become subject to any lien on account of labor or material furnished to the Lessee or its agents in connection with work of any character performed or claimed to have been performed on the Leased Premises by or at the direction of the Lessee, provided, however, the Lessee shall have the right to contest in good faith and with reasonable diligence the validity of such lien or claimed lien.

c. Until the expiration or earlier termination of this Lease, title to any Improvements situated on or erected on the Leased Premises, as allowed under the terms of this Lease and any equipment or other property installed thereon and any alteration, change or addition thereto shall remain solely with Lessee, or, subject to Lessor's prior approval, which approval shall not be unreasonably withheld: i) in a third party purchaser of the electricity generated by Lessee; or ii) in a third party who holds title for reasons related to Lessee's financing of the Improvements. Nothing herein shall preclude Lessee from operating such Improvements in the event of Lessor's default and failure to cure.

d. Upon expiration or earlier termination of this Lease, unless the Lessor has expressed an interest in acquiring the facilities and a price can be agreed upon, Lessor and Lessee agree that Lessee shall have a one-year period thereafter in which to remove from the Leased Premises all Improvements. In the event that Lessee elects to remove such facilities, Lessee shall, at its own cost, cap the pipeline and take all steps required by applicable law and regulation with the abandonment of the pipeline and other underground facilities and structures. All Improvements which have not been removed prior to the expiration of such period shall, at Lessor's option, be deemed to have been abandoned, whereupon title to such Improvements,

shall vest in Lessor on such date, without any payment or other consideration given by Lessor. Alternatively, Lessor may require Lessee to remove all or any part of such Improvements at Lessee's expense. If Lessee fails to remove such Improvements pursuant to Lessor's request, Lessor may remove said Improvements at Lessee's expense.

e. Lessor's consent to Lessee's construction and/or installation of Improvements pursuant to this Paragraph 6 shall not create any warranties in favor of Lessee or any third party as to the design, suitability, regulatory compliance or other attributes of such Improvements.

f. Lessor shall have the right to review and accept all plans for design and construction of the Improvements before Lessee commences construction and/or installation, and to monitor Lessee's operations on the Leased Premises. Such review and approval shall be limited to the extent necessary to enable Lessor to determine that the Improvements and the operation thereof, do and will:

- (i) comply with the terms of this Lease;
- (ii) not adversely affect, in any material respect, Lessor, its agents, employees, officers and directors or post-closure activities at the Pendleton County Landfill ("Landfill");
- (iii) not emit noxious odors or excessive noise as defined by applicable regulations.

g. Lessee shall comply with all applicable laws, regulations and orders of governmental bodies at all times in the conduct of its activities on the Leased Premises.

7. Destruction of Improvements. In the event the Improvements are partially or totally destroyed such that they cannot, in Lessee's reasonable opinion, be used for their intended purposes, Lessee shall have the right to terminate this Lease on thirty (30) days' written notice to Lessor. Lessee, upon the effective date of such termination, shall have no further obligations or liabilities hereunder except as to those covenants and obligations which expressly survive the termination hereof, including but not limited to the removal of the Improvements as set forth in Paragraph 6.

8. Use of Leased Premises. Lessee shall use the Leased Premises solely in accordance with the terms of this Agreement. Lessee's use of the Leased Premises shall be on an exclusive basis, and the Parties agree to conduct their respective activities on the Leased

Premises in such a manner so as not to unreasonably disturb each other's business operations.

9. Responsibility of Claims.

Lessor shall not be liable for loss of or damage to any property by theft or otherwise, or for any injury or damage to persons or property resulting from fire, explosion, steam, gas, electricity, water or rain which may leak from any part of any building or from the pipes, appliances or plumbing works therein, or from the roof, street or subsurface, or from any other place resulting from dampness or any other cause whatsoever, except for damage caused by the negligence, gross negligence or intentional misconduct of the Lessor. Lessee shall give immediate notice to Lessor of any fire, accident or defect discovered with the Leased Premises.

10. Default.

a. If the rental payments set forth in this Lease, shall remain unpaid for a period of twenty (20) days after they become due, or if Lessee shall be in default with respect to any of its covenants herein contained, Lessor may notify Lessee in writing, giving a reasonably detailed description of the default. Lessor may declare this Lease terminated and shall be relieved from further performance of any obligations hereunder if Lessee fails to cure, or commence the cure of, any default within the sixty (60) day period immediately following receipt of Lessor's notice of default and, after said period, fails to diligently pursue the cure to completion.

b. If Lessee fails to cure or commence the cure of said default within sixty (60) days following receipt of Lessor's notice of default, Lessor may at its election, in addition to its rights under sub-paragraph a. above, and not in lieu thereof, cure such default and charge the cost of effecting such cure from rentals accruing hereunder.

c. In the event either party waives a default by the other party, such waiver shall not be construed or deemed to be a continuing waiver of any subsequent breach or default on the part of either party.

d. Lessor shall pay or cause to be paid all taxes and assessments imposed on Lessor with respect to the sale of Landfill Gas, the ownership of the Landfill, Lessor's Facilities, and associated equipment. Lessee shall pay or cause to be paid all taxes and assessments imposed upon the Lessee with respect to the purchase of the Landfill Gas and the ownership of Lessee's Facilities and associated equipment. Neither Party shall be responsible or liable for any taxes or any other statutory charges levied or assessed against any of the facilities of the other party used for the purpose of carrying out the provisions of this Agreement.

11. Warranty. Lessor represents and warrants the following to Lessee:

- a. Lessor possesses fee simple title to the Leased Premises;
- b. Lessor has the power and authority to execute and deliver this Lease and carry out and perform all covenants to be performed by it hereunder.
- c. The Leased Premises are free from all mortgages, encumbrances, liens, defects in title, violations of law or environmental regulations, leases, tenancies, easements, restrictions and agreements of any kind whatsoever affecting the Premises which would substantially interfere with or obstruct Lessee's use of the Leased Premises for the purposes described herein; and
- d. At the time of the commencement of the term hereof, exclusive physical possession of the Leased Premises will be delivered to Lessee.

12. Indemnification. Subject to the provisions of Paragraph 9 set forth above, each Party shall comparatively defend, indemnify and hold the other Party, its directors, officers, partners, shareholders, employees, agents, representatives, co-ventures, tenants, contractors, or servants, harmless from and against any and all claims, penalties, demands, actions, proceedings, settlements, liability or losses of whatsoever nature including reasonable attorney's fees for injury or death to person(s) or for damage or loss to or of property to the extent arising out of or caused by: i) a breach of this Agreement by the indemnifying Party; or (ii) the indemnifying Party's intentional or negligent operations or activities hereunder. In no event shall either Party be liable to the other for loss of anticipated profits or consequential, special or punitive damages.

13. Notices. Any notice, request, demand, statement and/or payment provided for herein shall be in writing and, except as otherwise provided herein shall be sent to the Parties hereto at the following addresses:

Lessee: East Kentucky Power Cooperative, Inc.  
4775 Lexington Road 40391  
P. O. Box 707 40392-0707  
Winchester, Kentucky  
Attention: Mr. Ralph Tyree

Lessor: Mason Fiscal Court  
219 Stanley Reed Court  
Maysville, Kentucky 41056  
Attention: Hon. James L. Gallenstein

All payments made by the Parties shall be sent to the applicable address shown above. Such notices, etc., shall be deemed to have been given and received personally delivered or upon evidenced by a U.S. Postal Service Receipt for Certified Mail or by facsimile or by evidence of delivery by a private express mail service. Either Party may change the address to which communications or payments are to be made by written notice to the other Party as set forth above.

14. Force Majeure. If either Party is rendered unable, wholly or in part, by Force Majeure to carry out its obligations under this Agreement, it is agreed that upon such Party giving notice and reasonably full particulars of such Force Majeure in writing or by facsimile to the other Party as soon as possible after the occurrence of the cause relied on, then the obligations of the Party giving such notice, excluding the obligation to make payments due hereunder, are suspended to the extent necessary.

The term Force Majeure as used herein shall mean acts of God, fires, storms, lightning, floods, earthquakes, war, public disorder, accidents, casualty, changes in laws or regulations or other governmental acts, labor disturbances, or any other event of similar cause not reasonably within the control of the affected Party and which, by the exercise of reasonable diligence, such Party is unable to prevent or overcome. Force Majeure shall not include the unavailability of or delays in delivery of any product, labor, fuel, service or materials unless caused by an event that would otherwise be defined herein as an event of Force Majeure.

It is agreed that the settlement of strikes or lockouts shall be entirely within the discretion of the Party having the difficulty, and, that the foregoing requirement that any Force Majeure shall be remedied with all reasonable diligence and shall not require the settlement of strikes or lockouts by acceding to the demands of the opposing Party when such course is inadvisable in the discretion of the Party having the difficulty.

15. Governing Law. This Lease shall be governed by and construed in accordance with the laws of the Commonwealth of Kentucky.

16. Definition. Wherever the words "Lessor" and "Lessee" appear in the Lease, they shall include the respective Parties hereto and their respective successors and assigns.

17. Complete Agreement. This Lease is intended to constitute a final, complete and exclusive expression of their agreement on the subject matter hereof, and shall not be changed, modified, discharged, or extended, except by subsequent amendment in writing signed by both Parties.

18. Waiver. The waiver by either Lessor or Lessee of any failure on the part of the other party to perform any of its obligations under this Lease shall not be construed as a waiver of any future or continuing failure or failures, whether similar or dissimilar thereto.

19. Counterparts. This Lease may be executed in any number of counterparts, each of which shall be deemed an original.

20. Partial Invalidity. If any term or provision of this Lease, or the application thereof to any person or circumstance, becomes invalid or is found to be unenforceable, the remainder of this Lease, or the application of such term or provision to persons or circumstances other than those as to which it is held unenforceable, shall not be affected thereby, and each term and provision of this Lease shall be valid and enforced to the fullest extent permitted by law.

21. Assignment. This Agreement may not be assigned by either Party without the prior approval of the other Party, which consent shall not be unreasonably withheld or delayed. Upon any assignment made in compliance with this paragraph 21, all covenants, terms, conditions, and provisions of this Agreement shall inure to and be binding upon the successors and assigns of the assigning Party and without relieving the assigning Party from liability hereunder. Nothing herein shall in any manner restrict the Parties from assigning rights hereunder to the Rural Utilities Service ("RUS"), the National Rural Utilities Cooperative Finance Cooperation ("CFC"), or any other third party lender for financing purposes.

IN WITNESS WHEREOF, the Lessor and Lessee have caused this Lease to be executed on the date and year first written above.

WITNESS:

MASON FISCAL COURT ("Lessor")

Amy Astor

By: James L. Gallenstein  
Printed Name: Hon. James L. Gallenstein  
Title: Judge Executive

WITNESS:

CITY OF MAYSVILLE ("Lessor")

M. Susan Brammer

By: David W. Cartmell  
Printed Name: David W. Cartmell  
Title: Mayor

WITNESSES:

EAST KENTUCKY POWER COOPERATIVE, INC.  
("Lessee")

Claudia H. Embury

By: Robert M. Marshall  
Printed Name: Robert M. Marshall  
Title: President & CEO



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**13.0 Exhibit C: Board Resolution**

## **13.0 Exhibit C: EKPC Board Resolution**

**FROM THE MINUTE BOOK OF PROCEEDINGS  
OF THE BOARD OF DIRECTORS OF  
EAST KENTUCKY POWER COOPERATIVE, INC.**

At a regular meeting of the Board of Directors of East Kentucky Power Cooperative, Inc. held at the Headquarters Building, 4775 Lexington Road, located in Winchester, Kentucky, on Monday, June 11, 2007, at 9:30 a. m., EDT, the following business was transacted:

Maysville-Mason County Landfill Gas to Energy Project

After review of the applicable information, a motion was made by Jimmy Longmire and, there being no further discussion, passed to approve the following:

**Whereas**, East Kentucky Power Cooperative, Inc. ("EKPC") has submitted a proposal to Mason County Fiscal Court ("Mason County") to construct, own, and operate ("develop") a Landfill Gas to Electric ("LFGTE") Project, near Maysville, Kentucky;

**Whereas**, EKPC has reviewed the gas projections provided by SCS Consulting Engineers ("SCS") for determining plant capacity and future gas production;

**Whereas**, EKPC has completed the feasibility study for the project and expects the facility to produce energy competitive with other power supply options;

**Whereas**, EKPC desires to develop the Maysville-Mason County LFGTE Project at a site owned by the Mason County Fiscal Court;

**Whereas**, EKPC will need to negotiate an acceptable site lease and fuel supply contract with Mason County to provide renewable energy from the project, at a 20-year levelized cost estimated at less than \$0.032/kWh;

**Whereas**, EKPC Management and the Fuel and Power Supply Committee recommend the development of the Mason County LFGTE Project; and

**Whereas**, This recommendation supports EKPC's corporate objectives by planning for the member cooperatives' load needs and investigating new ventures in generation outside the traditional supply of power for native load; now, therefore, be it

**Resolved**, That the Board of Directors hereby approves the use of general funds, subject to reimbursement from Rural Utilities Service's ("RUS") construction loan funds or the use of Clean Renewable Energy Bonds, when and if such funds become available, to allow EKPC to develop a LFGTE facility at the Maysville-Mason County Landfill, at an estimated capital cost of \$2,499,000, including any transmission

requirements, subject to negotiating an acceptable site lease and fuel supply contract with Mason County to generate electrical energy at a 20 year levelized cost estimated at approximately \$0.032/kWh or less, and subject to obtaining all necessary regulatory approvals; and

**Resolved**, That the Board hereby authorizes the President and Chief Executive Officer, or his designee, to execute all necessary documents for such project on behalf of EKPC, and to seek all necessary regulatory approvals.

The foregoing is a true and exact copy of a resolution passed at a meeting called pursuant to proper notice at which a quorum was present and which now appears in the Minute Book of Proceedings of the Board of Directors of the Cooperative, and said resolution has not been rescinded or modified.

Witness my hand and seal this 11<sup>th</sup> day of June 2007.



A. L. Rosenberger, Secretary

Corporate Seal

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**14.0 Exhibit D: Vicinity Map**

# Maysville-Mason County LFGTE Project



 Proposed LFGTE Facility Site  
 KYRoute

1,000 500 0 1,000 Feet  
