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August 14, 2015

RECEIVED

AUG 14 2015

**PUBLIC SERVICE
COMMISSION**

Via Hand Delivery

Mr. Jeffrey Derouen
Executive Director
Kentucky Public Service Commission
P.O. Box 615
211 Sower Boulevard
Frankfort, KY 40602

Re: In the Matter of: An Application of East Kentucky Power Cooperative, Inc.
for an Order Declaring the Expansion of the Bavarian Landfill Gas to Energy
Project to be an Ordinary Extension of Existing Systems in the Usual
Course of Business; PSC Case No. 2015-00284

Dear Mr. Derouen:

Enclosed please find for filing with the Commission in the above-referenced case an original and ten (10) copies of East Kentucky Power Cooperative, Inc.'s Application. Please return a file-stamped copy to me.

Do not hesitate to contact me if you have any questions.

Sincerely,



L. Allyson Honaker

Enclosures

M:\Clients\4000 - East Kentucky Power\2684 - PPA for Renewable Energy\
Correspondence\Ltr. to Jeff Derouen - 150814.docx

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

RECEIVED

AUG 14 2015

PUBLIC SERVICE
COMMISSION

In the Matter of:

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

CASE NO.
2015-00284

APPLICATION

Comes now East Kentucky Power Cooperative, Inc. (“Applicant”), by and through counsel, pursuant to KRS 278.020, 807 KAR 5:001 Sections 14, 15 and 19 and other applicable law, and, for its Application requesting that the Kentucky Public Service Commission (“Commission”) enter an Order declaring the expansion of the Landfill Gas to Energy (“LFGTE”) facility at the Bavarian Landfill in Boone County, Kentucky (hereinafter, the “Project”) to be an ordinary extension of existing systems and the usual course of business,¹ pleads as follows:

1. Pursuant to 807 KAR 5:001 Section 14(1), Applicant’s mailing address is P.O. Box 707, Winchester, Kentucky 40392-0707. Applicant’s electronic mail address is psc@ekpc.coop. Applicant’s counsel should be served at david@gosssamfordlaw.com and allyson@gosssamfordlaw.com.

¹ Applicant previously made a regulatory commitment to file this type of application prior to developing any LFGTE Facility. See *In the Matter of the Application of East Kentucky Power Cooperative, Inc. for Approval of the Issuance of Clean Renewable Energy Bonds in an Amount up to \$15.8 Million for a Term of up to Sixteen Years*, Order (Ky. P.S.C. Dec. 20, 2007).

2. Pursuant to 807 KAR 5:001, Section 14(2), the Applicant is a Kentucky corporation, in good standing, and was incorporated on July 9, 1941.

3. Pursuant to 807 KAR 5:002, Section 15(3), 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 (“CPCN”) as generally required by KRS 278.020(1).

4. Pursuant to 807 KAR 5:001 Section 19, and as grounds for its request for a declaratory order, Applicant states as follows:

(a) KRS 278.020(1) provides an exemption from the requirement of a CPCN 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 15(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 Applicant involves the expansion of the existing Bavarian LFGTE facility,² by increasing its generation output by 1.6 MW. This will be accomplished through an investment of approximately \$2,262,000. The Applicant is able to secure capital savings for the Project by virtue of being able to utilize equipment previously

² The original development of the Bavarian LFGTE facility was determined to not require a CPCN. *See In the Matter of the Application of East Kentucky Power Cooperative, Inc. for an Order Declaring Landfill Gas to Energy Projects to be Ordinary Extension of Existing Systems in the Usual Course of Business*, Order, Case No. 2022-00352 (Ky. P.S.C. Dec. 18, 2002).

employed in the recently-closed Mason County LFGTE facility.³ No site compatibility certificate is required for the Bavarian LFGTE, pursuant to the provisions of KRS 278.216(1). This facility will provide reliable and economic, quantities of electric energy to Applicant's Members, utilizing renewable resources, and will not require investments sufficient to materially affect the financial condition of Applicant, or require an increase in Applicant's rates.

(c) The Commission has previously held that LFGTE developments have been ordinary course extensions of the Applicant's existing system and have not required a CPCN.⁴

5. Attached hereto as Exhibits are: (1) a description of the Project; (2) capital and operating cost estimates; (3) financing information; (4) feasibility studies; (5) the gas supply agreement and site lease for the Project; and (6) a map showing the Project's location and material components.

6. Applicant states that the Project is needed to provide economical electric energy, through the use of renewable resources, to Applicant's Members for service to their end-use member consumers, and that prompt approval of this Application is critical to Applicant's efforts to develop the Project. Accordingly, Applicant respectfully requests the Commission issue an

³ See Letter from Patrick Woods to Jeff Derouen (Feb. 4, 2015). A copy of the letter is filed in the post-case reference correspondence file for Case No. 2007-00509.

⁴ See *In the Matter of the Application of East Kentucky Power Cooperative, Inc. for an Order Declaring Landfill Gas to Energy Projects to be Ordinary Extension of Existing Systems in the Usual Course of Business*, Order, Case No. 2022-00352 (Ky. P.S.C. Dec. 18, 2002); *In the Matter of the Application of East Kentucky Power Cooperative, Inc. for an Order Declaring the Green Valley and Laurel Ridge Landfill Gas to Energy Projects to be Ordinary Extensions of Existing Systems in the Usual Course of Business*, Order, Case No. 2002-00474 (Ky. P.S.C. Mar. 3, 2003); *In the Matter of the Application of East Kentucky Power Cooperative, Inc. for an Order Declaring the Hardin County Landfill Gas to Energy Projects to be Ordinary Extensions of Existing Systems in the Usual Course of Business*, Order, Case No. 2005-00164 (Ky. P.S.C. July 8, 2005); *In the Matter of the Application of East Kentucky Power Cooperative, Inc. for an Order Declaring the Pendleton County Landfill Gas to Energy Project to be an Ordinary Extension of Existing Systems in the Usual Course of Business*, Order, Case No. 2006-00033 (Ky. P.S.C. Mar. 10, 2006); and *In the Matter of the 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 Court of Business*, Order, Case No. 2007-00509 (Ky. P.S.C. Mar. 26, 2008).

Order, on or before November 1, 2015, declaring that the Project is an ordinary course extension of its existing system and does not require a CPCN.

7. Furthermore, for the same reasons discussed above and in order to achieve administrative efficiency, Applicant respectfully requests that it be relieved from the obligation to file this type of application for future LFGTE projects so long as the LFGTE facility to be developed is a system resource benefitting all of Applicant's Members.


WHEREFORE, Applicant 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 15(3) and to relieve Applicant from the duty to file this type of application for future LFGTE projects developed by Applicant as a system resource to serve all its Members.

This 14th day of August, 2015.

VERIFICATION

The undersigned, pursuant to 807 KAR 5:001(19), hereby verifies that all of the information contained in the foregoing Application is true and correct to the best of my knowledge, opinion and belief.

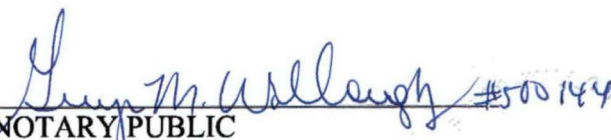
EAST KENTUCKY POWER
COOPERATIVE CORPORATION, INC.

BY: 
CRAIG JOHNSON
Senior Vice President of Power Production

COMMONWEALTH OF KENTUCKY

COUNTY OF CLARK

The foregoing Verification was signed, acknowledged and sworn to before me this 13th day of August 2015, by Craig Johnson, Senior Vice President of Power Production of EKPC, a Kentucky corporation, on behalf of the corporation.


NOTARY PUBLIC



Respectfully submitted,



David S. Samford

L. Allyson Honaker

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Counsel for East Kentucky Power Cooperative, Inc.

Exhibit List

Document	Tab
Description of the Project	1
Capital and Operating Cost Estimates	2
Financing Information	3
Feasibility Studies	4
Gas Supply Agreement and Site Lease	5
Map Showing the Project's Location and Material Components	6

**EXHIBIT 1 – DESCRIPTION
OF THE PROJECT**

Bavarian LFGTE Expansion Project Description

EKPC Bavarian LFGTE Facility began operation in late 2003 with an installed capacity of 3.2 MW. The existing facility consists of four Caterpillar 3516 800 kW engine generators housed in a concrete block building with a fuel compressor and associated switchgear. This facility has been performing with net capacity factors of approximately 90% since that time. The capacity factor takes into consideration all maintenance activities, weather related outages, and fuel supply interruptions.

Due to continued growth of the Bavarian Landfill and increased capacity of the gas collection system, EKPC began investigating the expansion of the EKPC LFGTE facility. Due to performance issues at Mason County, EKPC had a “spare” Caterpillar G3520 engine generator that had been replaced by a smaller engine at that site. Proactively, EKPC sought and received a Kentucky Division for Air Quality Permit for expansion of the Bavarian LFGTE Facility with the Caterpillar G3520 engine generator.

In late 2014 Mason County LFGTE was shut down stranding other generation assets associated with the Caterpillar G3520 engine generator dedicated to that facility. EKPC commissioned SCS to perform a gas supply potential study to confirm that the Mason County assets would be suitable for use in expanding the Bavarian LFGTE Facility. EKPC also commissioned Landfill Gas Technologies to engineer, design, and produce cost estimates for the expansion project.

The expansion of the generating facility will include the addition of a single Caterpillar G3520 1.6 MW engine generator and switchgear housed in a concrete block building extension, a fuel compressor housed in a separate concrete block building, engine cooling system, and step-up transformer. The building extension and transformer will be sized for future expansion at the Bavarian site.

The expected additional yearly generation will be up to 13,000 MWh.

**EXHIBIT 2 – CAPITAL AND
OPERATING COST ESTIMATES**

Expansion Capital and Operating Cost Estimates

ITEM	COST
Engineering Proposal	
Phase 1 Conceptual Design Development	14,240
Phase 2 (75% Design Phase)	52,180
Phase 3 (90% Design Phase)	14,000
Construction Overview	41,520
Project Start Up & Testing	60,100
Total LFGTech	182,040
From Mason County LFGTE	
CAT 3520 Engine plus Radiator and other Appurtences	693,780
FBC Skid	166,415
Asset Transfer	860,195
New Standalone 4160V, 1200A Switchgear (2 Cubicles)	197,600
Upgrade Existing Plant Switchgear Controls	46,900
480V, 600A Motor Control Center Extension	30,000
12470-4160V, 2500kVA Generator Step-up Transformer	55,000
General Construction Contract	890,211
Total Project Cost	\$2,261,946

The following table represents expected O&M costs for the expansion of the facility. Note Labor and Supervision are zero dollars. These costs are included in the original plant costs.

Year	Initial Cost	1	2	3	4	5	6
Labor, Supervision	0	0	0	0	0	0	0
Oil	30,000	30,000	30,750	31,519	32,307	33,114	33,942
Spark Plugs	6,000	6,000	6,150	6,304	6,461	6,623	6,788
Air Filters	2,000	2,000	2,050	2,101	2,154	2,208	2,263
Turbo-Charger	8,000	8,000	8,200	8,405	8,615	8,831	9,051
Water Pump	2,000	2,000	2,050	2,101	2,154	2,208	2,263
Top End (year 1,2,4,5)	34,000	34,000	34,850	35,721	36,614	37,530	38,468
In-frame (year 3)	96,000	0	0	65,139	0	0	0
Major Over-haul (year 6)	300,000	0	0	0	0	0	192,339
Electrical Maintenance	20,000	20,000	20,500	21,013	21,538	22,076	22,628
Miscellaneous	30,000	30,000	30,750	31,519	32,307	33,114	33,942
Yearly Total		132,000	135,300	203,821	142,150	145,703	341,685

Projected Cost of Generation

All-in cost of energy from Bavarian LFGTE ranged from \$26.28/MWh in 2010 to \$42.28 in 2014. Projections for 2015 costs are approximately \$45/MWh and, after the expansion, from \$46.83/MWh in 2016 to \$49.08/MWh (levelized) in 2021. The costs are levelized over a six-year maintenance cycle to account for the high over haul costs in the sixth year.

The following pro forma shows actual costs of the LFGTE facility from 2010 through 2014 and projected costs after the expansion from 2016 through 2021. Additional revenue for sales of renewable energy credits is not included in the cost summary.

Bavarian Expansion	Actual Costs						add 3520	Projected Costs					
	2010	2011	2012	2013	2014	2015		2016	2017	2018	2019	2020	2021
Fuel Price (\$/mmBtu)	0.332	0.457	0.722	0.729	0.751		0.78						
EKPC Finance Rate							0.045						
TIER							1.500						
Year	2010	2011	2012	2013	2014	2015		2016	2017	2018	2019	2020	2021
Generator Output	3200	3200	3200	3200	3200	3200	1600	4800	4800	4800	4800	4800	4800
Heat Rate (Btu/kWh) (HHV)	12,223	11,874	12,781	12,260	12,366	12,469	10,750	11,896					
Capacity factor	0.93	0.94	0.88	0.81	0.81	0.83	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Gross generation (kWh)	26,922,000	27,207,000	25,296,000	23,265,000	23,440,000	24,000,333	11,913,600	35,740,800	35,740,800	35,740,800	35,740,800	35,740,800	35,740,800
Station Service	927,000	717,000	687,000	619,000	679,000	661,667	328,815	1,000,742	1,000,742	1,000,742	1,000,742	1,000,742	1,000,742
Net generation (kWh)	25,995,000	26,490,000	24,609,000	22,646,000	22,761,000	23,338,667	11,317,920	34,740,058	34,740,058	34,740,058	34,740,058	34,740,058	34,740,058
EKPC LFGTE Capital Investment (\$)							2,261,946	2,261,946	2,160,849	2,059,752	1,958,654	1,857,557	1,756,460
Depreciation Expense	96,302	96,305	96,306	119,424	97,149	101,097	30	176,495	101,097	101,097	101,097	101,097	101,097
Interest Expense	194,526	98,596	111,746	0	0	0	years	101,041	99,365	97,611	95,777	93,859	91,853
Fuel Cost (\$)	104,498	143,683	227,024	202,421	211,277	213,574	99,767	331,214	331,214	331,214	331,214	331,214	331,214
O&M (\$)	287,709	451,782	581,064	911,721	653,999	715,595		832,455	853,266	1,090,819	896,463	918,874	1,921,438
COE (\$/MWh)	26.28	29.84	41.29	54.47	42.28	44.14	8.82	41.49	39.87	46.65	41.01	41.60	70.40
Levelized O&M (\$)	600,312	691,103	758,017	842,976	840,433	817,235		1,085,552	1,107,709	1,130,419	1,159,452	1,183,311	1,207,768
Levelized COE (\$/MWh)	39.72	42.25	43.92	44.82	42.57	42.87		46.83	46.93	47.41	48.06	48.56	49.08

**EXHIBIT 3 – FINANCING
INFORMATION**

Financing Information

EKPC will roll the Bavarian Expansion Project into a future RUS loan application. This is consistent with the majority of EKPC project financing and allows EKPC to retroactively capture costs that were incurred prior to loan approval. Rates on RUS debt are very competitive and less expensive than going to the open market to privately finance.

EXHIBIT 4 – FEASIBILITY STUDIES

SCS ENGINEERS



**Landfill Gas Modeling Report
Bavarian Landfill
Boone County, Kentucky**

Presented to:

East Kentucky Power Cooperative, Inc.



4775 Lexington Road
Winchester, KY 40391
(859) 744-4864

Presented by:

SCS ENGINEERS
2060 Reading Road, Suite 200
Cincinnati, OH
(513) 421-5353

June 2015
File No. 23210028.02

Offices Nationwide
www.scsengineers.com

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List of Exhibits

No.

EXHIBIT 1	LFG RECOVERY PROJECTION TABLE
EXHIBIT 2	LFG RECOVERY PROJECTION GRAPH

**LANDFILL GAS MODELING REPORT
BAVARIAN LANDFILL
BOONE COUNTY, KENTUCKY**

This report has been prepared as part of a landfill gas investigation in connection with the operation of a landfill gas to energy (LFGE) facility at the Bavarian Trucking Company Landfill located near Walton in Boone County, Kentucky. The development of the project was performed by East Kentucky Power Cooperative, Inc. (EKPC) in conjunction with the Bavarian Trucking Company, Inc. Gary Saylor of SCS Engineers performed a site visit at the landfill and met with representatives of the Bavarian Trucking Company and EKPC on May 5, 2015 for the purpose of obtaining updated information about the landfill and the in-place landfill gas (LFG) collection system.

LANDFILL BACKGROUND

Bavarian Trucking Company, Inc. owns and operates the active Bavarian Trucking Co. Landfill in Boone County. Operations at the site began in 1973. The site primarily accepts municipal solid waste (MSW) and construction debris waste from counties in Kentucky, Ohio, and Indiana. The landfill is located on McCoys Fork Road, north of Interstate Highway 71 (I-71) and west of I-75 near Walton, Kentucky. The currently permitted site has a waste footprint of 162.6 acres, of which a large portion has been developed for waste disposal. The site received approval in February 2001 to expand the landfill by an additional 53 acres, resulting in the gain of a significant volume of additional waste disposal space at that time.

The Bavarian Landfill is comprised of multiple disposal units, constructed in 4 different phases, with a combined permitted footprint of approximately 163 acres. Units 3 and 4 combined (referred to as Unit 4) are the active contained landfill at the site receiving mostly general MSW for disposal, but also some industrial and special wastes. Units 1 and 2 are currently closed to additional solid waste disposal.

Unit 1 began receiving waste in 1973 and was operated through 1986 when the unit was temporarily closed. Unit 2 opened in 1987 and operated through 1990. For an 18-month period starting in early 1991, Unit 1 reopened and was again the site's active disposal area. In the middle of 1992, Unit 1 closed to MSW and disposal resumed in Unit 2. Unit 2 was active from then through the middle of 1995 when Unit 3 was started. Unit 1 was reopened again in 1997 for the purpose of disposing only CDD waste. The CDD waste received in Unit 1 is excluded from the SCS gas recovery model.

The total remaining permitted waste capacity in Unit 4 was about 15.7 million cubic yards of landfill airspace as of the end of calendar year 2001. Approximately 1.4 million tons of waste was placed in Unit 3 from 1995 through the end of calendar year 2001. Unit 4 overlaps the east side of Unit 1, the south side of Unit 2, and the north side of Unit 3. Unit 4 will eventually fill the deep valley to the north of Unit 3 and between Units 1 and 2.

The status and characteristics of the landfill site are summarized below in the following table.

LANDFILL CHARACTERISTICS

Landfill Phase	Approx. Waste Footprint (Acres)	Permitted or Estimated Airspace (C.Y.)	Estimated MSW Filling Dates	Estimated MSW Tonnage In-place in 2014 (tons)	Current Status of Disposal Unit
Unit 1	26	1,723,030	1973-1986 1991-1992	880,242	Closed
Unit 2	19	1,632,622	1987-1990 1992-1995	1,076,392	Closed
Units 3 & 4	118	17,751,991	1995-2047	3,981,465	Active
Total	163	21,107,643	1973-2047	5,938,099	--

LANDFILL GAS COLLECTION SYSTEM

The active LFG collection system for this site was installed beginning in 2003. There were 19 vertical gas extraction wells installed in the currently active area (Units 3 and 4), 13 vertical wells installed in Unit 1, and 13 vertical wells installed in Unit 2. There were also three horizontal gas collectors installed in the area overlapped by Unit 4 and connections made to five leachate clean-out risers in Unit 4.

Details on the expansions to the LFG collection system are as follows:

- Over the period from 2004 to 2006 there were some minor additions made to the LFG system. This included five more vertical wells in Unit 1, two leachate risers in Unit 2, and two more vertical wells in Unit 4.
- In 2009, there were four horizontal collectors, two vertical wells, and one additional leachate riser added to collect gas from Unit 4.
- In recent years the system has been expanded as new waste is being placed in the landfill. Currently, there are 18 vertical wells in Unit 1, 12 wells in Unit 2, 42 wells in Unit 4, 9 horizontal collectors in Units 1 and 4, and 30 leachate cleanouts/liner collectors in Units 2 and 4.

Based on the well readings and operational data provided, it appears that the LFG collection system was providing sufficient gas in 2007 and 2008 to support the four-engine LFGE plant running at near full load. Starting with the improvements to the system in 2009, vacuum levels in the system decreased while methane levels increased, indicating that additional LFG was available that was not being collected. It was a typical operating practice at this site not to collect and flare any excess LFG up until 2013, and then it occurred only on an occasional basis. Starting in mid-2014, the flare has been operated more routinely in conjunction with the gas to

electric plant to help control site odors and demonstrate the quantity of excess gas available. The LFG recovery rates listed in the following section of the report for 2004 through 2012 are based on flows to the LFGE plant only, with no flare flow included. LFG flows for 2013, 2014, and early 2015 included both gas plant and flare flow data.

SCS reviewed gas collection point data supplied by Bavarian for the months of October 2014 through March 2015. Of the 111 gas collection points installed at the landfill as of early 2015, most are consistently producing methane concentrations above 40 percent, with an overall average of about 54 percent. LFG flows from each collection point vary from as low as 5 cfm at some locations to a high of 60 cfm in one vertical well. Thirty collection points are listed as "LC" which typically designates connections to the leachate collection cleanout riser pipes. Bavarian has also installed a number of gas collectors along the sidewall liner on the east side of Unit 4 (labeled "LC") that are laid on top of the liner in between the leachate cleanouts. Bavarian also plans to continue adding more interim gas collectors in the active disposal area as soon as possible to increase LFG collection rates and help control off-site odors.

Historical Landfill Gas Recovery

LFG flows for the LFG-to-energy (LFGE) plant in 2004 through early-2015 were reported to SCS by EKPC on an mmBtu per month basis. SCS converted the Btu data to average flows per year in standard cubic feet per minute (scfm) at 50 percent methane by dividing the total mmBtu for the year by 506 Btu per cubic feet and by the number of minutes per year. The resulting average LFG recovery rate in each year is shown in the table below.

LANDFILL GAS FLOW RATES

Year	Approximate Heat Value of Methane Recovered (mmBtu)	Average LFG Recovery Rate (scfm)*
2004	313,300	1,175
2005	318,900	1,199
2006	331,900	1,248
2007	321,000	1,207
2008	325,100	1,219
2009	317,300	1,193
2010	330,800	1,244
2011	331,900	1,248
2012	314,600	1,180
2013	331,900	1,248
2014	346,000	1,301
2015	106,300**	1,621**

*LFG flow is adjusted to a normalized level of 50 percent methane.

**Flow for year 2015 is limited to data for the period January through March.

Because the flare was rarely or never used to combust excess LFG until 2013, reported flows through 2012 were limited by the normal operating capacity of the four CAT 3516 engines, which is approximately 1,250 scfm at 50 percent methane. In 2013, the site began operating the

flare in addition to sending gas to the power plant, but not on a regular basis. In the last half of 2014, flare was operated in addition to the gas plant on a more routine basis.

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.

The LFG recovery projection for the Landfill is shown in Exhibit 1 and Exhibit 2. SCS prepared its model using the following input parameters:

- **Refuse Filling History and Projections:** Bavarian provided the total waste tonnage to SCS for the period 1973 through 2014. The older tonnage numbers were provided for a previous report. Updated tonnage values were provided for this report by Bavarian for years 2010 through the end of 2014. The tonnage for 2014 was adjusted to 300,000 tons in the calculations to account for the excess inert waste taken last year. Bavarian also provided a projection of future waste receipts for years 2015 through site closure based on an estimated amount of 300,000 tons per year of solid waste with an MSW content of about 70 percent (based on actual MSW receipts for period 2005 to 2014).
- **LFG Decay Rate Constant (k):** A k value of 0.076 yr^{-1} was used based on the SCS default value for precipitation received (41 inches per year) in the area of the site.
- **Ultimate Methane Recovery Rate (L_0):** A L_0 value of $3,130 \text{ ft}^3/\text{ton}$ was used. This is based on calibrating the model to actual flow data recorded at the site in 2005, which was before LFG recovery was limited by the plant capacity. This value is slightly higher (about four percent above) the average ultimate methane recovery rate for similar MSW landfills.
- **Historic System Coverage:** Collection system coverage was estimated to be about 70 percent overall when the gas collection system was first installed. Coverage for the years since was back-calculated based on the actual LFG recovery data, which takes into account the limited system capacity of the gas plant. This resulted in an effective coverage of about 70 percent coverage during the period from 2003 through 2006 and falling to about 60 percent by 2012. This was a result of waste disposal continuing while operation of the system was limited to meeting the plant's needs only, without collecting any excess gas for combustion in the flare. Expansion of the system did occur in 2009 and 2010; however, under-utilization of the available LFG kept actual recovery lower than possible. With operation of the flare starting in 2013, the effective system coverage increased to about 62 percent.
- **Future System Coverage:** Full time operation of the flare in early 2015 has revealed the effective system coverage to be in the range of 70 to 75 percent. Based on our review of the overall collection system installation and operation, system coverage is estimated to

currently be 75 percent and is expected to be maintained at that level in year 2016 and beyond based on the following assumptions:

1. Additional vertical wells will continue to be raised and maintained connected to the system;
2. Vertical wells will be added to new waste disposal areas on an annual basis; and
3. That the system will be operated to maximize LFG recovery, with excess gas exceeding the current capacity of the LFGE plant flared or combusted in the LFGE plant following an expansion of its capacity.
4. Future system coverage values after 2015 assume that expansion and active operations and maintenance (O&M) of the system will be regularly undertaken. SCS assumed that Bavarian will make regular improvements to the LFG collection system every year to maintain the effective coverage of 75 percent. The system needs to be expanded continuously with the future waste placement and existing system components needed to be maintained to have a consistent actual recovery rate of 75 percent of the recovery potential.

Projected LFG recovery rates are tabulated in Exhibit 1. A graph of the projected LFG recovery rates is included as Exhibit 2. All LFG flow values are adjusted to 50 percent methane content. Exhibit 1 includes the following information:

- Annual historical and projected future waste disposal rates.
- Annual waste in place values.
- Projected LFG recovery potential, which is the maximum amount of LFG that is recoverable with a fully comprehensive collection system.
- Estimated collection system coverage.
- Projected annual average LFG recovery from the existing and planned system, which is equal to the recovery potential multiplied by the estimated system coverage.

Exhibit 2 provides the following information in a graph format:

- Projected LFG recovery potential.
- Projected LFG recovery from the existing and planned system.
- Average actual LFG recovery rates for 2004 – 2015.

LFG recovery is projected to increase to 1,740 scfm in 2016 based on continued system coverage of 75 percent. LFG recovery will continue to increase while the landfill remains in operation and collection system expansions occur, possibly reaching 1,990 scfm by 2020, 2,213 scfm by 2025, and 2,366 scfm by 2030. If collection system expansions do not occur on an annual or more frequent basis, LFG recovery is projected to decline by about 7 percent in any year without an expansion (based on the k value).

Methodology, Limitations, and Model Disclaimer

The landfill gas model used by SCS Engineers applies the same first-order decay equation and variables as the U.S. Environmental Protection Agency's Landfill Gas Emissions Model (LandGEM). Unlike LandGEM which estimates LFG generation, the LFG model developed by SCS estimates LFG recovery and applies k and L_0 factors that are calibrated to LFG flow rates measured at the landfill being modeled, or developed by SCS using a database of over 1,000 years of LFG flow and methane data over 200 landfills with operational LFG collection systems. Because the L_0 and k values developed by SCS for modeling LFG recovery at U.S. landfills do not provide information on LFG emissions, they should not be used for any regulatory purpose and are not consistent with U.S. EPA regulation and guidance for LFG modeling for Clean Air Act programs.

This report has been prepared in accordance with the case and skill generally exercised by reputable LFG professionals, under similar circumstances, in this or similar localities. The LFG recovery projections are based on our engineering judgment as of the date of this report. No warranty, express or implied, is made as to the professional opinions presented herein.

Changes in the landfill property use and conditions (for example, variations in rainfall, water levels, landfill operations, volume of inert waste, 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.

This letter report has been prepared exclusively for the use of the EKPC. 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.

CONCLUSIONS AND OBSERVATIONS

The Bavarian Landfill is a MSW disposal facility located in Northern Kentucky with a fairly comprehensive gas collection and control system. Parts of the landfill are closed and not receiving waste, while others areas are active and receiving about 200,000 tons of new MSW each year out of a total annual waste disposal rate of 300,000 tons or more. Achieving the future gas recovery rates predicted by this report is dependent on maintaining the existing gas collection system, expanding the gas collection into new waste disposal areas, and the disposal of the expected future volumes of MSW.

Based on our review of the project documentation, and the operating records of the existing landfill gas collection system at the Bavarian Landfill, SCS makes the following specific observations regarding the site's LFG recovery potential:

1. SCS was provided with data from both Bavarian and EKPC to conduct this study. This included historical gas recovery rates, historical waste quantities, and information on the operation of the gas collection system.

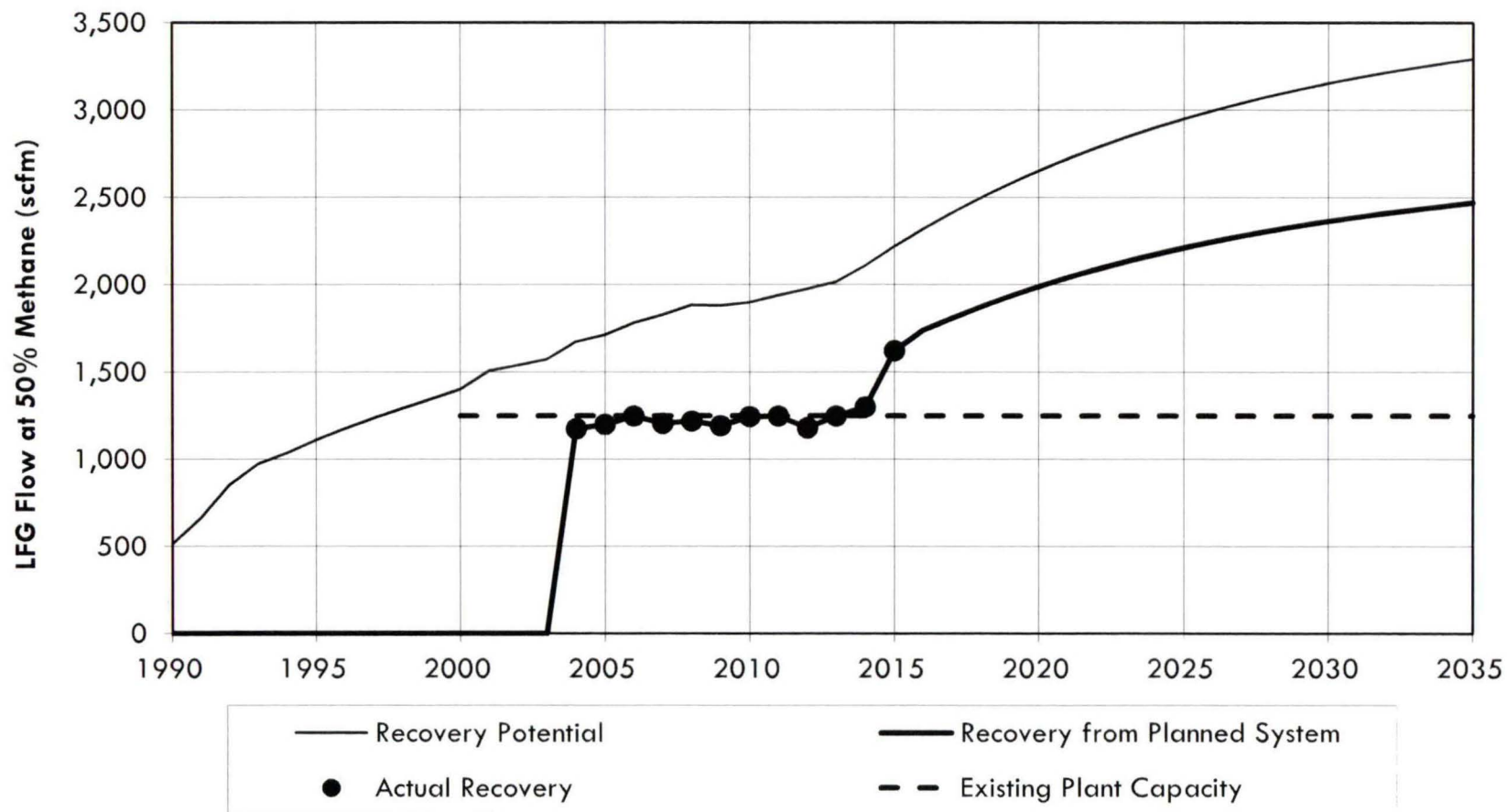
2. As mentioned above, achieving the future gas projections in this study is dependent on a number of factors. Maintaining and expanding the LFG collection system is critical to maximizing future gas recovery.
3. The LFG recovery potential at this site has steadily increasing since it opened in 1973 and should continue to increase in the future. This is dependent on the site continuing to receive waste in the projected amount for at least the next twenty to thirty years.
4. Historical gas flows at the facility were relatively level from 2004 to 2013. This is a result of the operating limitation of the existing LFGE plant and the fact that no flaring of excess gas was routinely done. The existing LFG system is capable of recovering more gas than was collected in the past, as demonstrated by the increased flows when the flare operated in 2014 and early 2015.
5. Based on the model projections, SCS estimates that additional LFG is available for an LFGE plant with expanded capacity. SCS understands that EKPC is planning to add a CAT 3520 engine generator set and desires a minimum of 450 scfm of LFG to fuel the engine. Based on the flare flow data provided to SCS for the first 3 months of 2015, there is about 400 to 420 scfm of excess gas available now assuming the base load of the existing plant is in the range of 1,200 to 1,250 scfm. SCS estimates that the landfill could support a plant expansion of about 500 scfm starting in 2016 provided the gas system coverage estimates are met and the waste stream into the facility continues to include more than 200,000 tons per year of typical MSW waste (not including industrial or special wastes). The planned LFG recovery in 2016 is predicted to be about 1,740 scfm of LFG at 50 percent methane. SCS recommends the plant expansion be performed in late 2015 and be ready to begin operation in 2016.

**EXHIBIT 1. LFG RECOVERY PROJECTION
BAVARIAN LANDFILL, WALTON, KY**

Year	Disposal Rate	Refuse In-Place	LFG Recovery Potential			LFG System Coverage	LFG Recovery from Planned System		
	(tons/yr)	(tons)	(scfm)	(mmcf/day)	(mmBtu/yr)	(%)	(scfm)	(mmcf/day)	(mmBtu/yr)
1990	214,248	1,067,382	513	0.74	136,445	0%	0	0.00	0
1991	272,603	1,339,985	663	0.96	176,414	0%	0	0.00	0
1992	209,713	1,549,698	854	1.23	227,064	0%	0	0.00	0
1993	152,413	1,702,111	975	1.40	259,345	0%	0	0.00	0
1994	171,025	1,873,136	1,037	1.49	275,902	0%	0	0.00	0
1995	166,994	2,040,130	1,111	1.60	295,587	0%	0	0.00	0
1996	166,994	2,207,124	1,176	1.69	312,892	0%	0	0.00	0
1997	166,994	2,374,118	1,237	1.78	328,930	0%	0	0.00	0
1998	169,007	2,543,125	1,293	1.86	343,795	0%	0	0.00	0
1999	175,096	2,718,221	1,346	1.94	358,041	0%	0	0.00	0
2000	238,720	2,956,941	1,401	2.02	372,664	0%	0	0.00	0
2001	161,760	3,118,701	1,508	2.17	401,052	0%	0	0.00	0
2002	167,266	3,285,967	1,539	2.22	409,418	0%	0	0.00	0
2003	245,672	3,531,639	1,573	2.27	418,456	0%	0	0.00	0
2004	184,797	3,716,436	1,674	2.41	445,113	70%	1,175	1.69	312,603
2005	222,638	3,939,074	1,713	2.47	455,626	70%	1,199	1.73	318,996
2006	201,214	4,140,288	1,783	2.57	474,193	70%	1,248	1.80	331,802
2007	215,762	4,356,050	1,829	2.63	486,406	66%	1,207	1.74	320,915
2008	153,524	4,509,574	1,884	2.71	501,116	65%	1,219	1.75	324,125
2009	178,252	4,687,826	1,881	2.71	500,239	63%	1,193	1.72	317,309
2010	204,818	4,892,644	1,900	2.74	505,192	65%	1,244	1.79	330,851
2011	203,925	5,096,569	1,940	2.79	515,976	64%	1,248	1.80	331,910
2012	211,533	5,308,102	1,977	2.85	525,763	60%	1,180	1.70	313,825
2013	274,263	5,582,365	2,018	2.91	536,607	62%	1,248	1.80	331,910
2014	355,734	5,938,099	2,110	3.04	561,284	62%	1,301	1.87	346,006
2015	300,000	6,238,099	2,219	3.20	590,157	73%	1,621	2.33	431,111
2016	300,000	6,538,099	2,320	3.34	616,916	75%	1,740	2.51	462,687
2017	300,000	6,838,099	2,413	3.47	641,717	75%	1,810	2.61	481,288
2018	300,000	7,138,099	2,499	3.60	664,703	75%	1,874	2.70	498,527
2019	300,000	7,438,099	2,579	3.71	686,006	75%	1,935	2.79	514,505
2020	300,000	7,738,099	2,654	3.82	705,751	75%	1,990	2.87	529,313
2021	300,000	8,038,099	2,722	3.92	724,051	75%	2,042	2.94	543,038
2022	300,000	8,338,099	2,786	4.01	741,011	75%	2,090	3.01	555,758
2023	300,000	8,638,099	2,845	4.10	756,730	75%	2,134	3.07	567,548
2024	300,000	8,938,099	2,900	4.18	771,299	75%	2,175	3.13	578,474
2025	300,000	9,238,099	2,951	4.25	784,801	75%	2,213	3.19	588,601
2026	300,000	9,538,099	2,998	4.32	797,316	75%	2,248	3.24	597,987
2027	300,000	9,838,099	3,042	4.38	808,914	75%	2,281	3.28	606,686
2028	300,000	10,138,099	3,082	4.44	819,664	75%	2,311	3.33	614,748
2029	300,000	10,438,099	3,119	4.49	829,627	75%	2,340	3.37	622,220
2030	300,000	10,738,099	3,154	4.54	838,861	75%	2,366	3.41	629,146
2031	300,000	11,038,099	3,186	4.59	847,419	75%	2,390	3.44	635,564
2032	300,000	11,338,099	3,216	4.63	855,351	75%	2,412	3.47	641,513
2033	300,000	11,638,099	3,244	4.67	862,702	75%	2,433	3.50	647,027
2034	300,000	11,938,099	3,269	4.71	869,515	75%	2,452	3.53	652,137
2035	300,000	12,238,099	3,293	4.74	875,830	75%	2,470	3.56	656,873

Methane Content of LFG Adjusted to: 50%
 Selected Decay Rate Constant (k): 0.076
 Selected Ultimate Methane Recovery Rate (Lo): 3,130 cu ft/ton

**Exhibit 2. LFG Recovery Projection
Bavarian Landfill, KY**



**EXHIBIT 5 – GAS SUPPLY
AGREEMENT AND SITE LEASE**

LANDFILL GAS PURCHASE AGREEMENT

BETWEEN

**BAVARIAN TRUCKING CO., INC., d.b.a.
BAVARIAN WASTE SERVICES**

AND

EAST KENTUCKY POWER COOPERATIVE, INC.

FOR THE

BAVARIAN LANDFILL

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LANDFILL GAS SALES AGREEMENT

BAVARIAN LANDFILL

This LANDFILL GAS PURCHASE AGREEMENT (the "Agreement") is made this 28th day of August, 2002, by and between Bavarian Waste Services, whose address is 12764 McCoy Fork Road, Walton, Kentucky 41094 ("Seller") and East Kentucky Power Cooperative, Inc., a Kentucky corporation, whose address is 4775 Lexington Road, Winchester, Kentucky 40391 ("Purchaser").

RECITALS

- A. Seller owns the Bavarian Landfill ("Landfill"), located near Walton, Kentucky; 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. Pursuant to the terms of a Site Lease Agreement executed of even date, Purchaser is leasing certain real estate from Seller 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 four (4) Caterpillar 3516-800 kW engine/generator sets.

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"). The heating value of the components found in Landfill Gas shall have the values as defined by the American Gas Association Report No. 3, printed as ANSI/API 2530. Calibration tests shall be performed by Seller at least once each year and the result of each test shall continue to be used until the results of a subsequent test are known. For purposes of calculating payments due hereunder, the heating value of the Landfill Gas shall be the calculated corrected saturated Btu content per cubic foot of the total Landfill Gas sample at a base temperature of sixty (60) degrees Fahrenheit and a base pressure equivalent of 14.73 psia based on the measured uncorrected dry Btu content per cubic foot of the total Landfill Gas sample.

- 2.2 Delivery Pressure.** Seller will 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 Paragraph 2.1, or the delivery pressure set forth in Paragraph 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 in accordance with the terms of Paragraph 9.3.d.
- 2.4 Seller's Reserved Rights.** Seller expressly excludes from this Agreement and reserves unto itself, its successors and assigns, the right to operate the Landfill and Landfill Gas extraction facilities free from any control by Purchaser in such manner as Seller, deems advisable, including without limitation, 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 Paragraph 13.1 herein.
- 2.5 Purchaser's Reserved Rights.** Purchaser reserves the right, at any time and in its sole discretion, to add or remove engines/gensets as Landfill Gas volumes would increase or decrease. 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 by Purchaser, had the engine/genset not been removed.

- 2.6 Disclaimer of Warranties.** Seller makes no warranties as to the quality or quantity of the Landfill Gas delivered to Purchaser except as provided herein. THE PARTIES AGREE THAT THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE EXCLUDED FROM THIS TRANSACTION AND DO NOT APPLY TO THE LANDFILL GAS SOLD HEREUNDER.

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. Seller shall install, operate, and maintain in accurate working order, metering devices for the measurement of the Landfill Gas delivered hereunder at Seller's sole cost and expense.

- b. Meter Tests. Seller, at its sole cost and expense, shall keep the metering equipment accurate and in repair, making such periodic tests as Seller deems necessary, but at least once each year. Seller shall give Purchaser reasonable advance notice of any such test so that Purchaser may have its representative present. Purchaser may request a special test of the metering equipment at any time. The results of each test shall continue to be used until the results of a subsequent test are known and the expense of any such special test shall be borne by Purchaser if the equipment is found to be inaccurate by less than two (2) percent. If, upon any test, requested by Purchaser, the equipment is found to be inaccurate by more than two (2) percent, meter readings shall be corrected for a period extending back to the time such inaccuracy first occurred, if that time can be ascertained. If that time is not ascertainable, corrections shall be made for one half of the elapsed time since the previous meter calibration. The result of each test shall continue to be used until the results of a subsequent test are known. For purposes of calculating payments due hereunder, the heating value of the Landfill Gas shall be the calculated corrected saturated Btu content per cubic foot of the total Landfill Gas sample at a base temperature of sixty (60) degrees Fahrenheit and a base pressure equivalent of 14.73 psia based on the measured uncorrected dry Btu content per cubic foot of the total Landfill Gas sample.
- c. Meter Out of Service. If, for any reason Seller's metering equipment is out of service or out of repair so that the amount of Landfill Gas delivered cannot be ascertained or corrected pursuant to Paragraph 3.2.b, Seller shall estimate the amount of Landfill Gas delivered during the period when the metering equipment is out of service or out of

repair based on deliveries during earlier periods under similar conditions when the metering equipment was registering properly.

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 Landfill Gas delivered to Purchaser pursuant to the terms of the Agreement shall be \$.25 per MMBtu.
- 4.2 Annual Rate Adjustment.** The purchase price for Landfill Gas shall be adjusted annually, on each anniversary date of this Agreement, in a percentage amount equal to seventy-five (75) percent of the increase or decrease in the Consumers Price Index, All-Urban (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 (10th) 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 (30th) 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 the amount due within thirty (30) days of the date of the notice of error. In the event of an overcharge, Seller shall refund the overpayment to Purchaser within thirty (30) days of the date of the notice of error.
- c. Interest. Interest shall accrue on any amount over paid or not paid on or before the due date therefore at an annual rate equal to one (1) percent plus the prime rate of Citibank, N.A., New York, New York, or its successor.
- d. Records. Each Party shall have the right, at its sole expense during normal business hours, to examine the other Party's records to the extent necessary to verify the accuracy of any statement, change, notice, or computation made hereunder.

4.5 Incentive Payment. Purchaser desires to commence commercial operation of its LFGTE Facility by the April 1, 2003. Purchaser acknowledges that Seller needs to complete installation of an aggressive Landfill Gas Collection system, in order to supply such gas. Purchaser hereby agrees to provide a cash incentive to Seller, payable upon completion of the gas collection system (which is to be substantially complete by 4/1/03), to assist with the cost of the aggressive gas collection system, which shall be designed and agreed to as capable of delivering 1300 scfm of 50% methane gas. Time is of the essence in executing the Gas

Purchase Agreement and Site Lease for this project, therefore the cash incentive payment shall be based upon buyers receipt of all necessary permits, approvals and the following:

<u>Executed Contract Prior to:</u>	<u>Incentive Payment</u>
June 18, 2002	\$350,000.00
July 15, 2002	250,000.00
August 1, 2002	100,000.00

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 where Seller's meter measures the Landfill Gas being sold to Purchaser. 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 all equipment required to produce and process the Landfill Gas and to deliver such Landfill Gas to the Point of Delivery, including all gas metering equipment and all equipment required to be owned by Seller in order to claim entitlement to the Credits as well as any equipment required to flare the Landfill Gas. At all times during the term hereof, Seller's Facilities shall be designed, constructed, and operated in compliance with all applicable laws and regulations.
- 7.2 **Purchaser's Facilities**. At no cost to Seller, Purchaser shall 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. A pipeline 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 existing leachate/condensate collection system;
- 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 sole 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 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 can be agreed upon. 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 strive to construct and install Purchaser's Facilities in accordance with the milestones set forth in Exhibit "A" attached hereto.

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 transmission or distribution lines, and shall include approvals of the EKPC Board of Directors ("Board"), Public Service Commission ("PSC"), Rural Utilities Service ("RUS"), and the air permit issued by the Kentucky Department of Air Quality. The Seller's permits, authorizations, easements, and right-of-way shall include but not be limited to: Department of Natural Resources and Environmental Protection Cabinet, Division of Waste Management Solid Waste Branch; Division of Air Quality; Boone County Fiscal Court or designee; Bavarian Trucking Co., Inc. Board of Directors. This Agreement is expressly contingent upon the Parties securing all such necessary permits and authorizations, pursuant to the provisions of Paragraph 13.5.
- 8.2 Public Utility Status.** Seller does not intent 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.

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 one (1) or more 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 in the event of the initiation by the Purchaser of a voluntary proceeding under the bankruptcy or insolvency laws, Purchaser shall provide written notice to the Seller; or
- d. 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 be completed in sixty (60) days, Purchaser fails to promptly initiate and implement such cure in a prompt fashion; or
- e. Termination of the Site Lease Agreement, pursuant to the terms of such Site Lease Agreement.

Upon termination by Seller pursuant to item a, b, c or e of this Paragraph 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, (ii) the indemnification obligations of Paragraph 12.1 shall remain in effect, and (iii) Purchaser shall be bound by the terms of Paragraph 9.3 below. All other obligations of the Parties hereunder shall cease upon such termination pursuant to items a, b, c or e; provided, however, that upon termination by Seller pursuant to item d of this Paragraph 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. 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 in the event of the initiation by the Seller of a voluntary proceeding under the bankruptcy or insolvency laws; or
- d. Seller fails to perform any material obligation hereunder, and fails to cure such failure to perform within sixty (60) days after receipt of Purchaser's notice of such failure of performance, or if such cure cannot be completed in sixty (60) days, Seller fails to promptly initiate and implement such cure in a prompt fashion; or
- e. Seller fails to provide Purchaser with adequate Conforming Landfill Gas to fully operate its LFGTE Facility for thirty (30) cumulative days in any three hundred sixty-five (365) day period; or
- f. Termination of the Site Lease Agreement, pursuant to the terms of such Site Lease Agreement.

Upon termination by Purchaser pursuant to items a, b, c, or f 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 Paragraph 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 f; provided, however, that upon termination by Purchaser pursuant to item d or e of this Paragraph 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 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, 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, lighting, floods, earthquakes, explosions, 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.

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 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.

ARTICLE XII

INDEMNITY

12.1 Indemnification. 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, 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.
- 13.2 Purchaser's Condensate.** Purchaser's Condensate shall 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 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 shall meet all applicable NMOC (non-methane organic compounds) destruction standards, at Purchaser's sole cost and expense.
- b. 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.
- c. 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 VIII. In the event the above contingencies are 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 further obligations to each other.

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. 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 and 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 "Subchapter S" Corporation 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. 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 or 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. 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 and 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 \$5,000,000 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. 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 Paragraph 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: Bavarian Waste Hauling and Disposal
12764 McCoy Fork Road
Walton, Kentucky 41094
Attention: Mr. James Brueggemann

With copy to:

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 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.

- 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 State of Kentucky without regard to principles of conflict of law.
- 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 Non-Discrimination.** This Agreement shall be subject to Paragraphs 1 through 7 of Section 202, Subpart B, of Presidential Executive Order 11246, September 24, 1965, which is hereby incorporated by reference and made a part hereof.

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: Della E. Dammann, Forand
on behalf of the Corporate Secretary

**EAST KENTUCKY POWER
COOPERATIVE, INC.**

By: Roy M. Palk

Printed Name: Roy M. PALK

Title: Pres/CEO

Attest: Riel Brueggemann

BAVARIAN WASTE SERVICES

By: James Brueggemann

Printed Name: JAMES BRUEGGEMANN

Title: President

EXHIBIT A

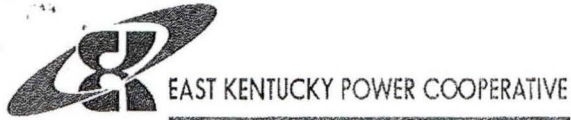
MILESTONES

Bavarian/East Kentucky Power Approval of Engineering Plans..... July 1, 2002

Obtaining Necessary Approvals.....October 15, 2002

Begin Installation of Gas Collection System.....November 1, 2002

Begin Construction of Electric Generation Station.....November 1, 2002



March 12, 2003

Jim Brueggemann, President
Bavarian Waste Hauling and Disposal
12764 McCoy Fork Road
Walton, Kentucky 41094

Subject: Bavarian Landfill Gas to Electric ("LFGTE") Facility
Landfill Gas Purchase and Site Lease Agreement
Contract Amendment No. 1

Dear Mr. Brueggemann:

This letter is to serve as Contract Amendment No.1 for the Bavarian Landfill Gas Purchase Agreement and Site Lease executed on August 28, 2002, between Bavarian Waste Services and East Kentucky Power Cooperative, Inc. ("EKPC") and includes the following:

- 1) Landfill Gas Purchase Agreement. Article VI, 6.1 Point of Delivery. The Point of Delivery for all Landfill Gas sold hereunder shall be at the interconnection between the Purchaser's Facilities and the Seller's Facilities at a point approximately ten (10) feet from the perimeter of the Purchaser's LFGTE Facility (see attached drawing). Title to and control and possession of the Landfill Gas sold hereunder shall pass to Purchaser at the Point of Delivery.
- 2) Landfill Gas Purchase Agreement. Article III, 3.2 a. Metering Equipment. Seller shall furnish, operate, and maintain in accurate working order of 2%, metering devices for the measurement of the Landfill Gas delivered hereunder at the Seller's sole cost and expense. The Purchaser shall provide for the installation of the metering equipment.
- 3) Site Lease Agreement. 1. Property Description. Lessor, in consideration of the rents and obligations to be paid and performed by Lessee, does hereby lease to the Lessee the premises described as the "Leasehold Area" in Attachment "2", see attached ("Leased Premises").

4775 Lexington Road 40391
P.O. Box 707, Winchester,
Kentucky 40392-0707

Tel. (859) 744-4812
Fax: (859) 744-6008
<http://www.ekpc.com>

Mr. Brueggemann
March 12, 2003
Page 2

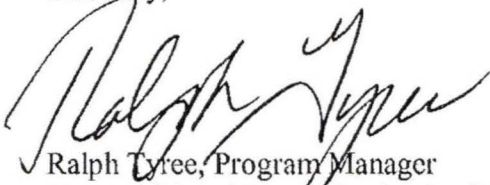
- 4) EKPC's construction schedule has been delayed as a result of a Force Majeure event, whereas required approval by the Kentucky Public Service Commission ("PSC") was not received until December 18, 2002 and the Air Permit issued by the Kentucky Division of Air Quality was not received until March 11, 2003.

Therefore, the Gas Purchase Agreement Exhibit "A" Milestones shall be revised as follows:

Start of construction of the LFGTE Facility April 1, 2003

We request that you signify your acceptance as indicated below and return one (1) executed original to my attention at your earliest convenience. If you should have any questions, please contact me.

Sincerely,



Ralph Tyree, Program Manager
Non-traditional Power Production Projects

Accepted By:

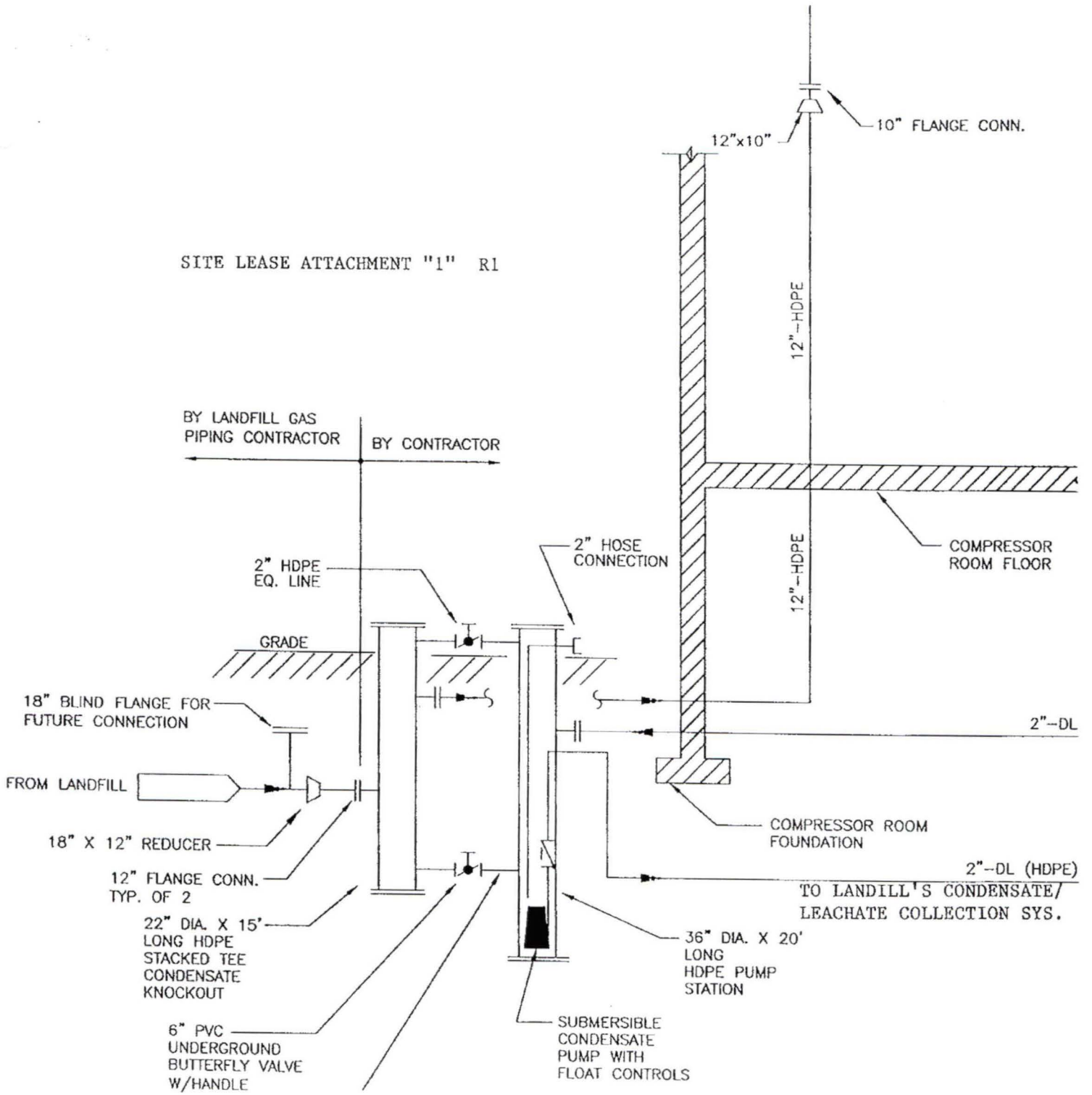
Bavarian Waste Services

James Brueggemann
Name

President
Title

3-14-03
Date

SITE LEASE ATTACHMENT "1" R1



Lease Description

Bavarian Trucking Company, Inc. to East Kentucky Power Cooperative, Inc.

Beginning at an iron pin (set), said iron pin being located S 22° 23' 18.1" W 125.15' of a 2 inch metal pipe (found) in the property line between Garry L. and Vicky Stephenson and Bavarian Trucking Company, Inc.

Thence S 40° 12' 22" E 208.71' to an iron pin (set);

Thence S 49° 47' 38" W 208.71' to an iron pin (set);

Thence N 40° 12' 22" W 208.71' to an iron pin (set);

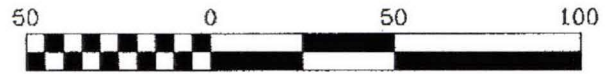
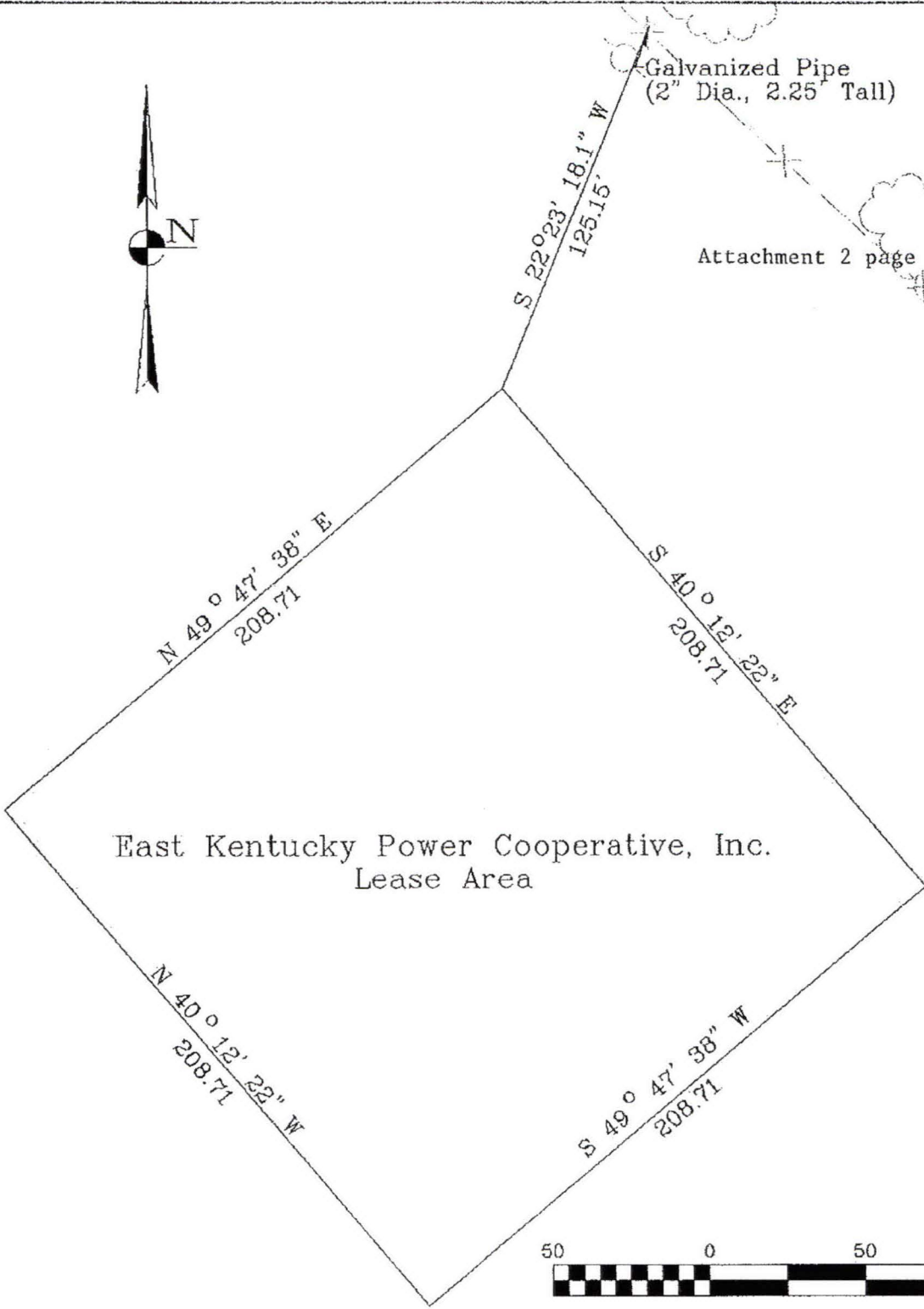
Thence N 49° 47' 38" E 208.71' to the beginning, containing 1.0000 acres.

Said described property being a portion of the original tract conveyed by deed to Bavarian Trucking Company, Inc. by Bernard F. and Gladys Stephenson and recorded in Deed Book 400 page 132 of the records of Boone County, Kentucky.

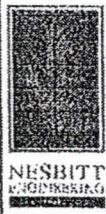


Galvanized Pipe
(2" Dia., 2.25' Tall)

Attachment 2 page 2



SCALE: 1" = 50' AS DRAWN



NESBITT ENGINEERING, INC.
ENGINEERS • SURVEYORS • SCIENTISTS

East Kentucky Power Coop., Inc. Lease Location
Bavarian Trucking Company, Inc.
12764 McCoy's Fork Road, Walton, Ky. 41094

DRAWING REVISIONS:

DRAWN BY:
JHS

DISK/FILE NAME:
P:\Survey\04-01\Drawings\2002\Aerial\04094.dwg

JOB NO.:
894.04

DATE:
7/17/2002

LAST PLOT DATE:

SCALE:
1"=50'



EAST KENTUCKY POWER COOPERATIVE

July 18, 2003

Jim Brueggemann, President
Bavarian Waste Hauling and Disposal
12764 McCoy Fork Road
Walton, Kentucky 41094

Subject: Bavarian Landfill Gas to Electric ("LFGTE") Facility
Landfill Gas Purchase and Site Lease Agreement
Contract Amendment No. 2 (Revised)

Dear Mr. Brueggemann:

This letter is to serve as Contract Amendment No.2 for the Bavarian Landfill Gas Purchase Agreement and Site Lease executed on August 28, 2002, between Bavarian Waste Services and East Kentucky Power Cooperative, Inc. ("EKPC") and is limited to the following changes:

Item 1. Section 4.5. Incentive Payment

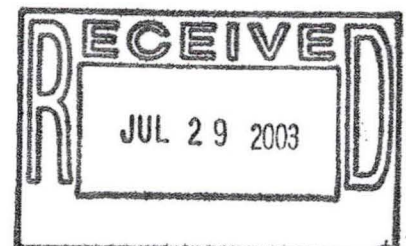
Substantial completion of the gas collection system shall be changed from 4/1/03 to 7/15/03.

Item 2. Section 3.2 Landfill Gas Metering

This section shall be modified so that EKPC shall assume responsibilities of Bavarian for the installation, operation, calibrating and maintenance of the metering devices for the measurement of landfill gas as provided herein. In consideration for EKPC's efforts, the purchase price for the aforementioned equipment of approximately \$44,000.00, more or less, shall be deducted from the cash payment as provided in Section 4.5 "Incentive Payment". EKPC will provide Bavarian with a copy of the invoice(s) as verification. All other provisions of this Section 3.2 shall remain in full force.

4775 Lexington Road 40391
P.O. Box 707, Winchester,
Kentucky 40392-0707

Tel. (859) 744-4812
Fax: (859) 744-6008
<http://www.ekpc.com>

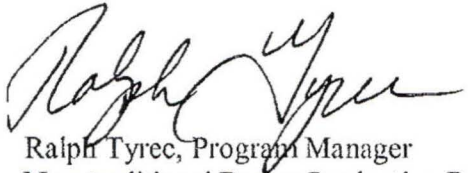


A Touchstone Energy Cooperative

Mr. Brueggemann
July 8, 2003
Page 2 of 2

We request that you signify your acceptance as indicated below and return one (1) executed original to my attention at your earliest convenience. If you should have any questions, please contact me.

Sincerely,



Ralph Tyrec, Program Manager
Non-traditional Power Production Projects

Accepted By:

Bavarian Waste Services

James Brueggemann
Name

President
Title

7-22-03
Date

**BAVARIAN LANDFILL GAS PURCHASE AGREEMENT
AMENDMENT NO. 3**

THIS LANDFILL GAS PURCHASE AGREEMENT AMENDMENT, made and entered into this 1st day of January, 2012, by and between Bavarian Waste Services, whose address is 12764 McCoy Fork Road, Walton, Kentucky 41094, hereinafter called "Seller;" and East Kentucky Power Cooperative, Inc., a Kentucky corporation with its principal office at 4775 Lexington Road, P. O. Box 707, Winchester, Kentucky 40392-0707, hereinafter called "Purchaser."

WITNESSETH

WHEREAS, Purchaser and Seller entered into a Landfill Gas Purchase Agreement dated, August 28, 2002 for the purchase and sale of Landfill Gas produced at Seller's Bavarian Landfill for Purchaser's Landfill-Gas-To-Energy Facility, located near Walton, Kentucky (hereinafter referred to as the "Agreement");

WHEREAS, Purchaser and Seller wish to amend certain provisions of the Agreement to modify the gas purchase price schedule;

NOW, THEREFORE, for and in consideration of the mutual covenants contained herein, the Parties hereby agree, effective January 1, 2012, to amend the Agreement as follows:

1. The gas purchase price will be amended to the performance based schedule:

<u>Capacity Factor</u>	<u>Gas Purchase Price</u>
90% - 100%	\$0.75/mmBtu
80% -89%	\$0.50/mmBtu
< 80%	Original contract terms

Where;

Capacity factor = gross generation for period / [rating * (hours in period – maintenance hours)] * 100

Gross generation for period = total gross generation of facility for period (MWh)

Rating = 0.8 MW

Hours in period = hours in month * number of installed units

Number of installed units = 4 (currently)


Maintenance hours = total hours units off-line due to maintenance per EKPC
PMRS (or succeeding EKPC measurement system)

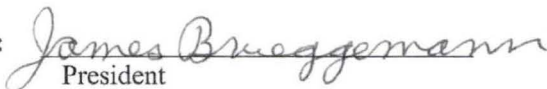
2. Except as expressly amended by this amendment, the Agreement remains unchanged and in full force and effect.

IN TESTIMONY WHEREOF, WITNESS the signatures of the undersigned duly authorized representatives, on the date first above written, in triplicate originals, for and on behalf of said parties.

ATTEST:


SELLER: Bavarian Waste Services

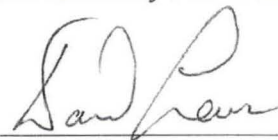

Secretary

BY: 
President

ATTEST:

PURCHASER: East Kentucky Power Cooperative, Inc.


Secretary

BY: 
Sr. VP Power Supply

SITE LEASE AGREEMENT

This Site Lease Agreement ("Lease") is made this 28th day of August, 2002 by and between Bavarian Trucking Co., Inc. dba Bavarian Waste Services, whose address is 12764 McCoy Fork Road, Walton, Kentucky 41094 ("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"). 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.

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 5 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 Bavarian Trucking Company 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: Bavarian Waste Hauling and Disposal
12764 McCoy Fork Road
Walton, Kentucky 41094
Attention: Mr. James Brueggemann

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 or 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 or 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.

WITNESSES:

BAVARIAN WASTE HAULING AND DISPOSAL
("Lessor")

Rick Bauggemann

By: *James Brueggemann*

Printed Name: JAMES BRUEGGEMANN

Title: President

WITNESSES:

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

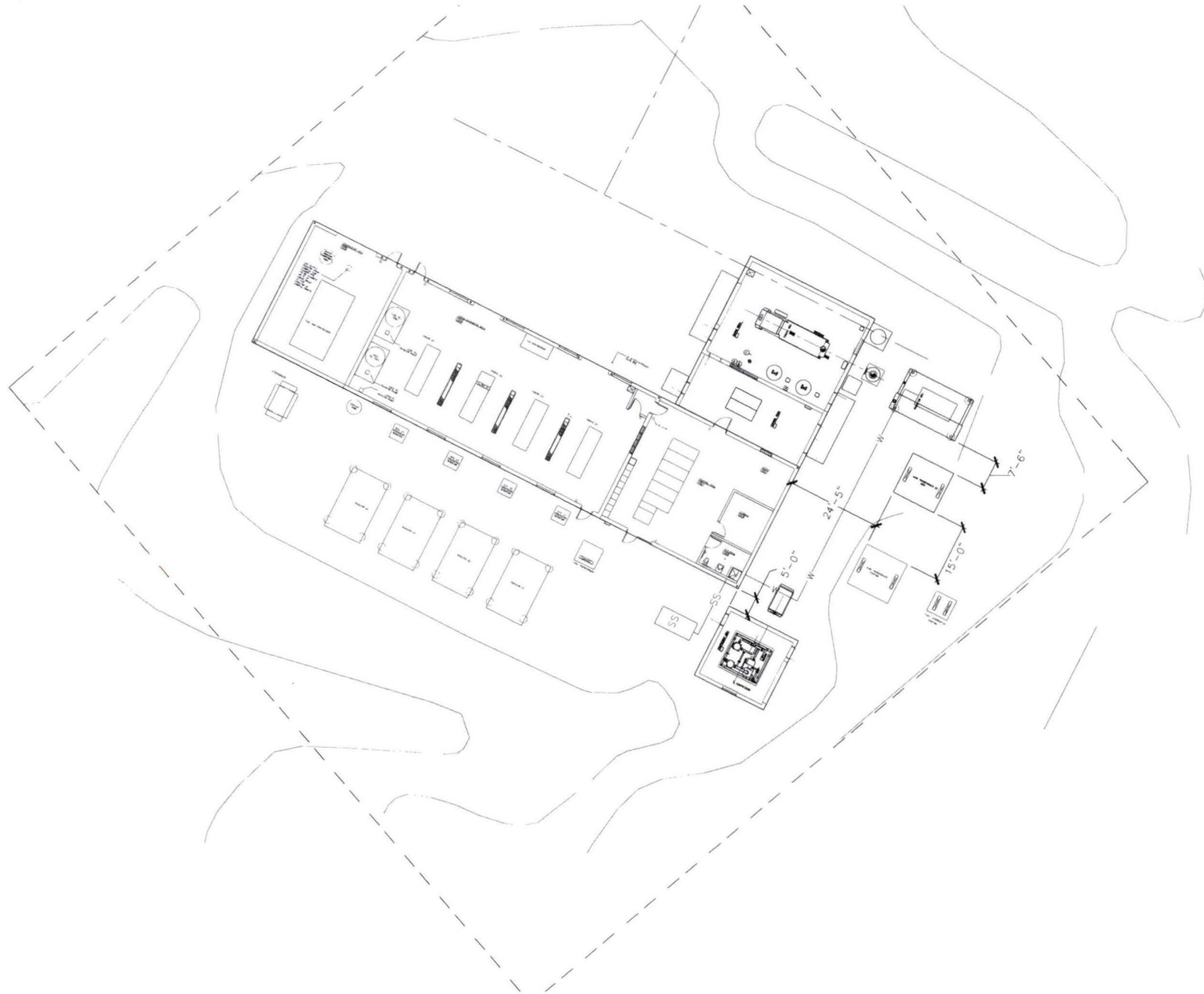
Claudia H. Embs

By: *Roy M. Palk*

Printed Name: Roy M. PALK

Title: Pres / CEO

**EXHIBIT 6 – MAP SHOWING THE
PROJECT’S LOCATION AND
MATERIAL COMPONENTS**



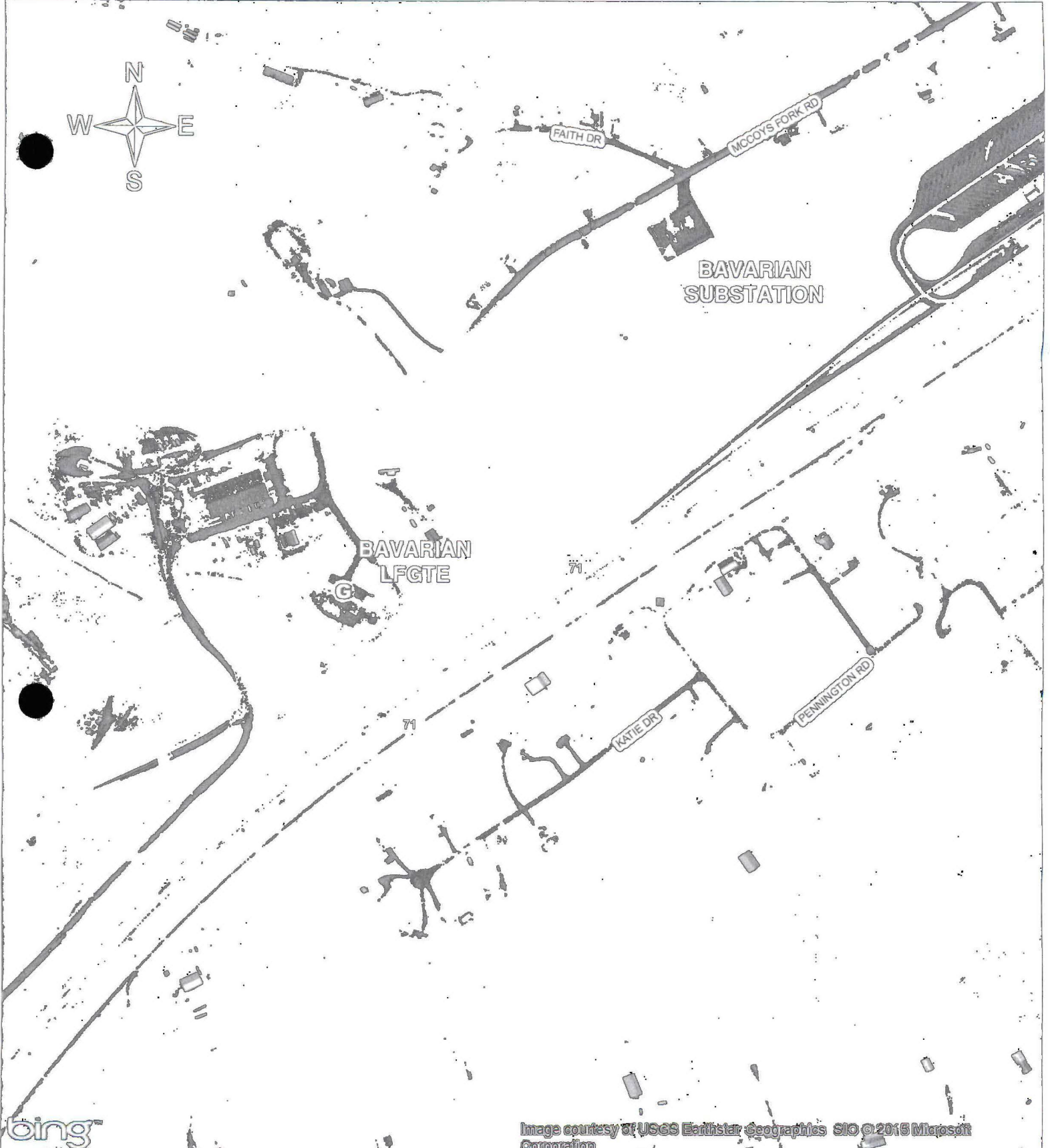
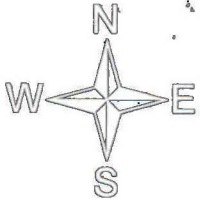
NO.	DESCRIPTION	DATE	BY	CHECKED
1	ISSUED FOR CLARIFICATION	02/14/13		
2				
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PRINTED UNDER 14.00 AND 14.00

Project Name	
Client	
Location	
Scale	
Author	
Check	
Date	

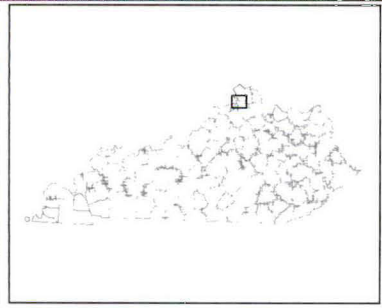
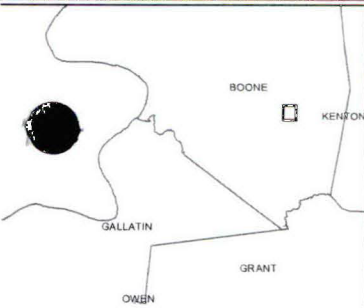

 East Kentucky Power Cooperative, Inc.
 Bayanun 2 Expansion Landfill Gas-To-Energy Project

PROPOSED FACILITY PLAN VIEW	
Date: 03/30/13	Sheet No: EKC-08
Project No: RE1-A1	Scale: E



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Image courtesy of USGS Earthstar Geographics SIO © 2016 Microsoft Corporation



Legend

- EKPC EKPC Generation
- EKPC Substation
- EKPC Transmission**
- 69 kV
- 138 kV
- 161 kV
- 345 kV
- 400 Feet

Bavarian LFGTE Expansion Project Vicinity Map



East Kentucky Power Cooperative
4775 Lexington Road, PO Box 707
Winchester, Kentucky 40392
Phone (859) 744-4812 www.ekpc.coop Fax (859) 744-6008