

**AGENDA ITEM**

May 2, 2017

Subject: KCP&L Demand Response Program Agreement

Department: Administration

This ordinance will approve the attached "Demand Response Incentive" agreement with KCP&L. Participation in the program will allow KCP&L to reduce the load on their grid during high demand days in exchange for incentive payments. The City will participate by curtailing electricity demand levels at six city buildings during Curtailment Events through use of backup generators. Facility operations and service to residents will not be affected. In exchange, the City will receive an annual Participation Payment of \$27,072.50, plus Curtailment Occurrence Payments for each event, as detailed in the agreement.

**BILL NO. 2017-026**

**ORDINANCE NO.**

**A SPECIAL ORDINANCE OF THE CITY OF NEVADA, MISSOURI AUTHORIZING THE EXECUTION OF AN AGREEMENT WITH KANSAS CITY POWER & LIGHT COMPANY.**

**BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF NEVADA, MISSOURI, THAT:**

**Section 1.** The Demand Response Incentive program agreement between the City of Nevada, Missouri, and Kansas City Power and Light Company, attached hereto and incorporated herein by reference is hereby approved.

**Section 2.** The City Manager is authorized and directed to execute the same in behalf of the City of Nevada, Missouri, and is authorized to take all reasonable steps necessary to comply with the terms of the agreement.

**Section 3.** This ordinance shall be in full force and effect from and after its passage and adoption.

**PASSED, APPROVED AND ADOPTED** by the City Council of the City of Nevada, Missouri, this \_\_\_\_\_ day of \_\_\_\_\_, 2017.

(seal)  
ATTEST:

\_\_\_\_\_  
Brian L. Leonard, Mayor

\_\_\_\_\_  
Johnna Williams, Deputy City Clerk

**DEMAND RESPONSE INCENTIVE  
KANSAS CITY POWER & LIGHT  
FORM OF AGREEMENT (MISSOURI)**

This AGREEMENT, made \_\_\_\_\_, by and between  
Kansas City Power & Light Company  
Hereinafter referred to as the "Company" and

<b>Customer Name:</b>	City of Nevada	<b>Account Number:</b>	6687559200 & 8067039018
<b>Street Address:</b>	110 S Ash St	<b>SAID:</b>	6687555300, 6787282735, 8067039848, 6697296006, 6896352384, 6687555448, 6687556758, & 6687554779
<b>City:</b>	Nevada	<b>Meter #</b>	LG77348326, SI81883035, SI81883051, EI08243833, LG10803112, LG88281134, LG15072607, & LG14960439
<b>State:</b>	MO	<b>SPID:</b>	3159127135, 3159127135, 1105087710, 9185802860, 9185802860, 6410341828, 8400679643, & 3211576454
<b>Zip:</b>	64772	<b>Rate:</b>	MO711 & MO720

**Customer Contact:**

**Fax :**(     )     **Telephone:** (     )     **Mobile Telephone :**(     )     **Email:**

**Customer Contact:**

**Fax :**(     )     **Telephone:** (     )     **Mobile Telephone :**(     )     **Email:**

hereinafter referred to as the "Customer."

WITNESSETH:

Whereas, the Company has on file with the Public Service Commission of the State of Missouri ("Commission") a certain MPower Rider, Schedule MP (Rider); and

Whereas, the Customer has furnished sufficient information to the Company to demonstrate that its facilities satisfy the Availability provisions of the Rider; and

Whereas, the Customer wishes to take electric service from the Company, and the Company agrees to furnish electric service to the Customer under this Rider and pursuant to all other applicable tariffs of the Company;

The Company and Customer agree as follows:

1. The Company shall provide electric service to the Customer's facility, which is located at \_\_\_\_\_ pursuant to this Agreement, the Rider, all other applicable tariffs, and the Company's General Rules and Regulations Applying to Electric Service, as may be in effect from time to time and filed with the Commission.
2. The Customer acknowledges that the Firm Power Level (FPL), which is the maximum demand level to be drawn during a Curtailment Event, shall be set at least 25 kW less than the Customer's Estimated Peak Demand as established by the Company from time to time pursuant to the Rider. The FPL is set at **0kW** resulting in a payment/bill credit for a Curtailable Load of **833kW**, with an Estimated Peak Demand of **833kW**. The Customer further acknowledges that any equipment required, except metering equipment necessary to ensure compliance under the Rider, shall be the obligation of the Customer.

Initial Here: \_\_\_\_\_

3. The Company may review and, if necessary, adjust the Customer's Estimated Peak Demand based on evidence that the Customer's actual peak demand has changed, or will change, significantly from the Estimated Peak Demand currently being used to calculate the Customer's Curtailable Load. If a change in the Customer's Estimated Peak Demand results in a change in its Curtailable Load, the Customer shall lose and/or repay its curtailment compensation proportional to the number of days curtailment was not available and the change in the Curtailable Load.
4. The FPL may be modified to reflect significant change in Customer load, subject to verification and approval by the Company. Any change in FPL made known to the Company that decreases Curtailable Load for the Customer shall result in re-evaluation of all curtailment compensation to the Customer. The Customer shall repay the company prior payments/credits made in excess of the curtailment compensation due based on the decreased level of Curtailable Load.
5. Service under this Agreement shall commence on **June 1, 2017**. Program Participation Payments shall begin with the first billing period following the first month of participation during the Curtailment Season. Agreements shall remain in effect for a minimum of one (1) year, up to a maximum of two (2) years, with all agreements ending by May 31, 2019.

This Agreement shall be for a term of \_\_\_\_\_ year(s).

Initial Here: \_\_\_\_\_

6. The allowable Curtailment Season during which a Curtailment Event may be requested shall extend from June 1 through September 30 of each year, Monday through Friday during the hours of 12:00 noon through 8:00pm during the term of this Agreement. The Company may call on the Customer to participate in at least one (1), but no more than 10 Curtailment Events during each Curtailment Season lasting between two and eight consecutive hours. The Company may call no more than one Curtailment Event per day and no more than three consecutive days per calendar week. The Company reserves the right to request participation by the Customer in Additional Voluntary Events throughout the term of this Agreement.

The Company reserves the right to request a Test Curtailment once each year and/or within three months after a Customer's failure to effect load reduction to its Firm Power Level or lower upon any Company request for curtailment. Test Curtailments do not count toward the Maximum Number of Curtailment Events. Customers will not be compensated for Test Curtailments.

7. The Company shall notify the Customer of a Curtailment Event no less than four (4) hours before the start time of each Curtailment Event using the agreed upon communication method (see Exhibit A). The Customer may change the notification method at any time by providing a new Exhibit A to the Company.

The Company reserves the right to cancel a scheduled Curtailment Event prior to the start time of such Curtailment Event. However, if cancellation occurs with less than two hours of the notification period remaining prior to commencement of a Curtailment Event, the canceled Curtailment Event shall be counted as a separate occurrence with a zero-hour duration.

8. As consideration for participation in the MPower program, Customer shall receive from the Company a Program Participation Payment of **\$32.50 per kilowatt** of Curtailable Load per Curtailment Season payable either at the end of each Curtailment Season or with a bill credit in equal payments each month over the course of the Curtailment Season. Customer will also receive a Curtailment Occurrence Payment for each Curtailment Hour during which the Customer's metered demand is less than or equal to the Customer's FPL. The energy payment is **\$0.075/kW for the first 30 hours** of dispatch and **\$0.25/kW for the remaining 50 hours** of dispatch. Curtailment Occurrence Payments will be paid in the form of either a payment or a bill credit. If the Program Participation Payment, or an Initial Payment, as defined by the Rider, is made as a bill credit, the credit shall be applied before any applicable taxes. If the Program Participation Payment, or an Initial Payment, as defined by the Rider, is made as a payment by check, there are no applicable tax benefits. All other billing, operational, and related provisions of other applicable rate schedules shall remain in effect. A decrease in Curtailable Load will require the Customer to refund to the Company part or all of payments received. With a multi-year contract, a decrease in Curtailable Load, or early termination of the Agreement, will require the Customer to refund to the Company, the difference

between payments received in the multi-year contract and the amount that would have been paid in the shorter-term contract. Refunds for a fractional year will be prorated.

Customer's preferred incentive payment method:  Bill Credit  
 Check

Initial Here: \_\_\_\_\_

9. At the Company's option and the Customer's request, during a Curtailment Event called for economic reasons, the Customer may purchase energy above its Firm Power Level from the Company at a price per kilowatt-hour determined at the beginning of a Curtailment Event. A Curtailment Event Payment will not be paid to Customers for Curtailment Events where this option is used. Customer will not have the option to purchase energy during a Curtailment Event called for operational reasons.
10. Failure of the Customer to effect load reduction to its Firm Power Level or lower in response to any Company request for curtailment shall result in the following reduction or refund of Program Participation Payments and Curtailment Occurrence Payments for each such failure as follows:

Reduction of Program Participation Payment: Customer will receive reduced future Program Participation Payments or a bill debit, in an amount equal to 150% of the Program Participation Payment divided by the Maximum Number of Curtailment Events, the result of which is multiplied by the percentage by which the Customer underperformed during a Curtailment Event.

Any Customer who fails to reduce load to its Firm Power Level on three or more days within any Curtailment Season may be ineligible for this program for a period of two years from the date of the third failure.

11. Self-generation as a curtailment method is restricted to customers who can provide documentation validating compliance pursuant to Environmental Protection Agency ("EPA") regulations (summarized at [www.epa.gov/ttn/atw/icengines/comply.html](http://www.epa.gov/ttn/atw/icengines/comply.html)) that affect the use of reciprocating internal combustion engines. By executing this Agreement, the Customer certifies that it has reviewed the EPA regulations pertaining to its specific generating equipment and it hereby represents and warrants that it is in compliance with all of the currently-applicable regulations. **Documentation of EPA compliance must be attached to this application for the agreement to go into effect.**

Customer's preferred method of curtailment:  Load Reduction  
 Self Generation

Initial Here: \_\_\_\_\_

12. The Customer further acknowledges that this Agreement is not assignable voluntarily by Customer, but shall nevertheless inure to the benefit of and be binding upon the Customer's successors by operation of law.
13. The Customer acknowledges that all information provided to the Company for the purpose of determining whether the Customer is eligible for service under the Rider shall be retained by the Company, and shall be subject to inspection and disclosure under Chapters 386 and 393, RSMo, as amended from time to time. Should the Customer designate any such information as proprietary or confidential, Company shall notify Customer of any request for inspection or disclosure, and shall use good faith efforts to secure an agreement or Commission order protecting the proprietary or confidential nature of such information.
14. This Agreement shall be governed in all respects by the laws of the State of Missouri, without regard to its conflict of laws provisions, and by the orders, rules and regulations of the Commission, as they may exist from time to time. Nothing contained herein shall be construed as divesting, or attempting to divest, the Commission of any rights, jurisdiction, power or authority vested in it by law.
15. Any regulation or law prohibiting the execution of this Agreement or its continuing execution will cancel the Agreement in place without penalty to either party.

- 16. This Agreement is subject to the Customer gaining the necessary permits, and to the Commission approving the required tariff and/or this Agreement.
- 17. In the event of modifications to the Rider, the parties will meet and discuss such changes. This Agreement may be replaced by a new agreement with full-term under the Rider with at least the same Curtailable Load.

In witness whereof, the parties have signed this Agreement as of the date first written above.

Kansas City Power & Light Company or Greater Missouri Operations Company      Customer Company Name

By: \_\_\_\_\_  
Name: Brian File  
Title: Sr. Manager, Products & Services

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

**Exhibit A**

The Company will notify the Customer of a Curtailment Event per each of the following methods. (Customer should only provide information for those channels by which he or she wishes to be contacted.)

<p>Contact #1</p> <p>Name: _____</p> <p>Title: _____</p> <p>Phone: _____</p> <p>Call to Cell: _____</p> <p>Email: _____</p>
<p>Contact #2</p> <p>Name: _____</p> <p>Title: _____</p> <p>Phone: _____</p> <p>Call to Cell: _____</p> <p>Email: _____</p>
<p>Contact #3</p> <p>Name: _____</p> <p>Title: _____</p> <p>Phone: _____</p> <p>Call to Cell: _____</p> <p>Email: _____</p>



City of Nevada  
110 S Ash St  
Nevada, MO 64772  
Call today to get started

# Demand Response Assessment Report

*City of Nevada*



*Table of Contents*

Executive Summary ..... 3  
Introduction ..... 3  
Facility Description ..... 4  
    General Building Information ..... 4  
    Baseline Energy Usage ..... 5  
Recommended Load Management Opportunities ..... 5

CLEAResult would like to thank the City of Nevada and KCP&L for your continued support on this project.

## Executive Summary

On March 6<sup>th</sup>, 2017, a load management assessment was performed at multiple *City of Nevada* buildings. This assessment identified significant energy-saving opportunity. Through KCP&L's Demand Response Incentive Program, this service is provided at no cost to City of Nevada and focuses on identifying load management measures that reduce electrical demand during peak demand periods.

The report includes general building information, utility data analysis and energy management opportunities.

Summary of Demand Response Opportunities			
Measure Type	Response Action	DR Type	Estimated Curtailment kW
1 – Community Center	Switch to Generator	Manual	108 kW
2 – Senior Center	Switch to Generator	Manual	46 kW
3 – WTP	Switch to Generator	Manual	250 kW
4 – WWTP	Switch to Generator	Manual	337 kW
5 – Fire Station	Switch to Generator	Manual	22 kW
6 – Police Station/Courthouse	Switch to Generator	Manual	70 kW
7 – Pool	Shutdown Entire Facility	Manual	79 kW
		<b>Total</b>	<b>912 kW</b>

## Introduction

# Demand Response (DR)

Facility managers and executives are aware of the financial rewards available for participating in Demand Response (DR). However, revenue is not the only benefit that results from participating in DR programs. Societal and environmental benefits are also associated with emergency and voluntary DR programs.

DR programs are economic based programs used during peak demand periods (typically during hot summer days). Without DR management, energy providers are forced to use peak load power plants when demand for electricity surges. As energy demand grows, more power plants must be built to accommodate the need to generate more supply.

Rather than build new generation plants, KCP&L offers an alternative. The Demand Response Incentive Program provides an incentive to customers to encourage demand response to avoid building new power plants. to

Demand response has emerged as a proven solution in response to grid emergencies. Many companies embracing sustainability are serving as early adopters who recognize DR as a way to leverage existing building systems and fund additional energy efficiency initiatives.

DR also provides environmental benefits by encouraging load shed during peak times. This decreases greenhouse gasses by reducing electricity production. According to the U.S. Energy Information Administration, the commercial sector’s electricity use accounts for 79.7% of all CO<sub>2</sub> emissions. Per conservative estimates, curtailing 100 MW of electricity load represents the energy needed to power more than 42,000 homes during the highest hours of energy use. By avoiding 1 MWh of generation, about 1,500 pounds of carbon emissions are avoided.

Participating in DR requires community effort and benefits everyone involved:

- Participants benefit by saving energy and earning revenue
- Utilities benefit by reducing demand for power plants
- Communities benefit by minimizing the threat of rolling blackouts
- Power plants benefit by reducing the number of plants built, which reduces toxic greenhouse gases

## Facility Description

### General Building Information

The City of Nevada has 9 meters at the following locations:

Meter #	Name	Address	City	Average Peak kW
LG77348326	Community Center	200 N ASH ST	Nevada	59.4
Unknown	Community Center	200 N ASH ST	Nevada	48.8
SI81883051	Senior Center	301 N MAIN ST	Nevada	46.3
EI08243833	WTP	100 N TOWER ST, WATERPLANT	Nevada	169
LG10803112	WTP	100 N TOWER ST	Nevada	80.6
LG88281134	WWTP	16517 S 1338 ST	Nevada	336.75
LG15072607	Fire Station	316 W CHERRY ST	Nevada	22
LG14960439	Police Station/Courthouse	110 S ASH ST	Nevada	69.6
EL05321589	Pool	400 W ATLANTIC ST	Nevada	79.1

## Baseline Energy Usage

Below is a summary of the peak period (June-September 2017) energy usage baselines for each meter.

Baseline kW Facility	Months				Overall		
	June	July	Aug.	Sept.	Max	Avg.	Min
Community Center	116	115.2	115.2	86.4	65.6	59.4	41.6
Senior Center	48.4	48	45.6	43.2	48.4	46.3	43.2
WTP	247.2	250.4	252.8	248	252.8	249.6	247.2
WWTP	330	360	321	336	360	336.7 5	321
Fire Station	19.2	25.6	20.8	22.4	25.6	22	19.2
Police Station/Courthouse	70.4	68.8	70.4	68.8	70.4	69.6	68.8
Pool	86.4	92	85.2	52.8	92	79.1	52.8

## Recommended Load Management Opportunities

This section identifies cost-effective load management measures. The measures recommended here are not intended to be a comprehensive list of all possible opportunities available for this facility. Instead, these measures are only those considered to be cost effective and feasible to implement. Measures are considered good investments when they meet the following criteria:

- 1) Are easily dispatched with an acceptable level of persistence
- 2) Have an investment amount less than the potential incentive from KCP&L's Demand Response Incentive Program
- 3) Provide auxiliary benefits, such as replacing old or broken equipment, which improves system operation

The estimated load curtailment potential presented in this section is based on field data gathered during the onsite visit, facility operations review, electric load analysis and discussions with facility personnel. The estimated load curtailment potential has been quantified based on industry-accepted methodologies. Although these potential savings are reliable preliminary estimates, the actual cost and kW savings may vary. For the purpose of this study, the recommendation and values presented provide a reasonable estimate suitable for planning and evaluation purposes.

## Load Management Opportunities

### Opportunity 1: Switch Community Center over to Emergency Generator

Actions: Turn on the existing emergency generator and take the entire facility off of the electric grid for the duration of an event.

Energy System Type: Entire Facility

Response Type: Manual

Estimated Reduction: 108 kW

Cost: Minimal – This measure involves using the existing emergency generator. Fuel costs will be incurred while operating the generator.

Implementation Barriers: Minimal – In order to be able to participate in the Demand Response program, the existing generator must meet EPA requirements. This just entails keeping a log of operation.

**Opportunity 2: Switch Senior Center over to Emergency Generator**

Actions: Turn on the existing emergency generator and take the entire facility off of the electric grid for the duration of an event.

Energy System Type: Entire Facility

Response Type: Manual

Estimated Reduction: 46 kW

Cost: Minimal – This measure involves using the existing emergency generator. Fuel costs will be incurred while operating the generator.

Implementation Barriers: Minimal – In order to be able to participate in the Demand Response program, the existing generator must meet EPA requirements. This just entails keeping a log of operation.

**Opportunity 3: Switch Water Treatment Plant over to Emergency Generator**

Actions: Turn on the existing emergency generator and take the entire facility off of the electric grid for the duration of an event.

Energy System Type: Entire Facility

Response Type: Manual

Estimated Reduction: 250 kW

Cost: Minimal – This measure involves using the existing emergency generator. Fuel costs will be incurred while operating the generator.

Implementation Barriers: Minimal – In order to be able to participate in the Demand Response program, the existing generator must meet EPA requirements. This just entails keeping a log of operation.

**Opportunity 4: Switch Waste Water Treatment Plant over to Emergency Generator**

Actions: Turn on the existing emergency generator and take the entire facility off of the electric grid for the duration of an event.

Energy System Type: Entire Facility

Response Type: Manual

Estimated Reduction: 337 kW

Cost: Minimal – This measure involves using the existing emergency generator. Fuel costs will be incurred while operating the generator.

Implementation Barriers: Minimal – In order to be able to participate in the Demand Response program, the existing generator must meet EPA requirements. This just entails keeping a log of operation.

**Opportunity 5: Switch Fire Station over to Emergency Generator**

Actions: Turn on the existing emergency generator and take the entire facility off of the electric grid for the duration of an event.

Energy System Type: Entire Facility

Response Type: Manual

Estimated Reduction: 22 kW

Cost: Minimal – This measure involves using the existing emergency generator. Fuel costs will be incurred while operating the generator.

Implementation Barriers: Minimal – In order to be able to participate in the Demand Response program, the existing generator must meet EPA requirements. This just entails keeping a log of operation.

**Opportunity 6: Switch Police Station/Courthouse over to Emergency Generator**

Actions: Turn on the existing emergency generator and take the entire facility off of the electric grid for the duration of an event.

Energy System Type: Entire Facility

Response Type: Manual

Estimated Reduction: 70 kW

Cost: Minimal – This measure involves using the existing emergency generator. Fuel costs will be incurred while operating the generator.

Implementation Barriers: Minimal – In order to be able to participate in the Demand Response program, the existing generator must meet EPA requirements. This just entails keeping a log of operation.

**Opportunity 7: Shutdown Pool**

Actions: Shutdown the pool (primary energy use is pumps).

Energy System Type: Entire Facility

Response Type: Manual

Estimated Reduction: 79 kW

Cost: None – This measure involves shutting the entire facility down during an event.

Implementation Barriers: Pool Use. Most events are weather related, which is likely to be a high-use time for the pool. The City may not want to shut down the pool during an event because of this.

## Summary of Demand Response Opportunities

Measure Type	Response Action	DR Type	Estimated Curtailment kW
1 – Community Center	Switch to Generator	Manual	108 kW
2 – Senior Center	Switch to Generator	Manual	46 kW
3 – WTP	Switch to Generator	Manual	250 kW
4 – WWTP	Switch to Generator	Manual	337 kW
5 – Fire Station	Switch to Generator	Manual	22 kW
6 – Police Station/Courthouse	Switch to Generator	Manual	70 kW
7 – Pool	Shutdown Entire Facility	Manual	79 kW
<b>Total</b>			<b>912 kW</b>

Initial \_\_\_\_\_

Customer Signature

\_\_\_\_\_

Date

\_\_\_\_\_