

**THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

Before Commissioners: Jay Scott Emler, Chairman
Shari Feist Albrecht
Pat Apple

In the Matter of the Complaint Against Kansas
City Power & Light by Jamie Littich

} Docket No. 16-KCPE-195-COM

RESPONSE TO KCPL'S STAFF'S REPORT & RECOMMENDATIONS RESPONSE

1. Complainant summarizes that KCPL's response to Staff's Report has the following attributes:
 - a. KCPL's response includes several disputed components as "FACTUAL BACKGROUND". For instance, KCPL claims that the likely cause of the downed wire was a fallen tree limb due to a storm event that had recently occurred in the area even though this claim was never substantiated.
 - b. KCPL addresses staff's report and recommendations by self-limiting its responses to the eight staff-requested actions in the executive summary. No attempt is made to challenge the analysis of the over-sized fuse and it as the root-cause of the sustained bolted fault and derivative damages further described in the report.
 - c. KCPL counters KCC staff's NESC interpretation claiming Staff misapplied the NESC upon the transformer in question and that KCPL is code compliant.
2. In **Section II FACTUAL BACKGROUND – Paragraph 10**, KCPL states that "during the call, complainant was asked by KCP&L whether Complainant had a surge protector on his home"

COMPLAINANT RESPONSE:

- KCPL could more clearly explain the surge protection rationale: The argument appears to be that it is the customer's obligation to protect everything beyond the point of service and to do so, requires a home surge protector.

- Complainant recognizes that KCPL sells surge protection for monthly fees that are structured as levels of insurance and also installs surge protection equipment in meter box free of charge.

<http://www.kcpl.com/save-energy-and-money/for-home/protect-your-home/home-surge-protection>

- KCPL provides the following selling justification for their service:

"The average house can be subject to numerous power spikes and surges every day, in addition to those that occur during thunderstorms. Regular surge protectors and power strips don't work until the damaging surge is already inside your home. Plus, those surges can wear out average surge protectors, compromising their effectiveness and putting your expensive electronic equipment, appliances and computers at risk."

- KCPL claims normal commercially available surge protection products do not work to keep the surge out of the home or that they wear out, effectively providing no protection.

Is the KCPL protection device specifically designed to protect a home from a bolted secondary fault?

- The terms and conditions of the surge protection insurance provides the following general terms:

<p>MONTHLY FEE: Customer will pay for the surge protection at the meter a monthly fee, plus applicable sales or use tax, due within thirty (30) days of the date of KCP&L's monthly invoice to Customer. Monthly fee schedule as follows:</p> <ul style="list-style-type: none"> • Basic: Five Dollars and Ninety-Five Cents (\$5.95) • Expanded: Seven Dollars and Ninety-Five Cents (\$7.95) • Deluxe: Nine Dollars and Ninety-Five Cents (\$9.95) <p>TERMS: The Agreement will be in effect on the date Customer accepts this Agreement to be bound by these terms and will continue for a minimum term of twenty-four (24) months from the date of installation of the surge protection device at the electric meter. Customer will pay a \$150 removal fee if Customer cancels the Agreement in the initial twenty-four (24) month period or if Customer's account is past due more than thirty (30) days in the initial twenty-four (24) month period. Automatic renewal after twenty-four (24) months. After the initial twenty-four (24) month period, the Agreement shall continue from month to month until either Customer or KCP&L cancels the Agreement by notifying the other party in writing at least thirty (30) days in advance. There shall be no removal charge if the Agreement is canceled after the initial twenty-four (24) month period. If Customer's account is past due more than thirty (30) days after the initial twenty-four (24) month period, Customer will pay a \$15 removal fee. If Customer requests reinstallation, Customer will pay a \$15 reinstallation fee.</p> <p>CANCELLATION: A cancellation of this Agreement by either Customer or KCP&L shall be without prejudice to the rights or remedies of either Customer or KCP&L under this Agreement. If the surge protection device at the electric meter remains in place during any portion of a period for which the monthly fee is due, Customer shall pay the entire monthly fee for that period. Upon cancellation, KCP&L will remove the surge protection device from the meter.</p> <p>SURGE PROTECTION GUARANTEE: If a power surge passes through the surge protection device at the electric meter and damages cord and plug connected appliances or home or office electronics equipment (hereinafter "Appliances"), KCP&L will be responsible for the following depreciated values based on specific plan enrollment:</p> <ul style="list-style-type: none"> • Basic: Up to a maximum of \$750 per Appliance and for the depreciated collective damage to the Appliances up to a maximum of Ten Thousand Dollars (\$10,000) • Expanded: Up to a maximum of \$1,000 per Appliance and for the depreciated collective damage to the Appliances up to a maximum of Twelve Thousand Dollars (\$12,000) • Deluxe: Up to a maximum of \$2,000 per Appliance and for the depreciated collective damage to the Appliances up to a maximum of Fifteen Thousand Dollars (\$15,000) <p>KCP&L will not be responsible for damage (1) to Appliances not owned by the Customer; (2) to property of Customer that, in KCP&L's sole and reasonable discretion, does not constitute an Appliance; (3) to Customer's residence; (4) to products, materials, data or information used or stored in an Appliance; (5) caused by a surge which has not passed through the surge protection device at the electric meter; (6) caused by a direct lightning strike to Customer's premises; (7) caused by the improper installation of the grounding electrode system under the standards in the National Electric Code, or (8) to residential heating and cooling equipment. KCP&L's liability will be limited to the depreciated value of the damaged Appliances as determined by the most recent version of a Guide to Property Loss Adjustment as published by the National Association of Mutual Insurance Companies, and KCP&L will not be responsible for Customer's indirect or consequential damages. Customer individually and on behalf of its insurers waives all rights of subrogation against KCP&L.</p>

- *"The Agreement will be in effect on the date Customer accepts this Agreement to be bound by these terms and will continue for a minimum term of twenty-four (24) months from the date of installation of the surge protection device at the electric meter. Customer will pay a \$150 removal fee if Customer cancels the Agreement in the initial twenty-four (24) month period."* Available pricing on some commercially available whole-home surge protectors put material costs for this device around \$150. The KCPL 24 month contract minimum puts the customer's total cost of protection in a similar range. The possibility that the device could fail at preventing lightning damage or even medium voltage damage would put payouts at an amount that's a clear net loss for KCPL.

- *"If a power surge passes through the surge protection device at the electric meter and damages cord and plug connected appliances or home or office electronics equipment*

.." KCPL insurance doesn't appear to cover wiring damages, it does not appear to cover flooding due to a hot ground melting a PEX water line and it does not appear to cover main circuit breaker fires. These are the three types of major damages that were incurred in the event.

- *"KCPL will be responsible for the following depreciated values based on specific plan enrollment:*

***Basic:** Up to a maximum of \$750 per Appliance and for the depreciated collective damage to the Appliances up to a maximum of Ten Thousand Dollars (\$10,000). [etc]"*

The valuation system used to pay out on any claim is depreciative value, which will leave the customer responsible for the difference between depreciative and replacement cost when replacing items. With there being a maximum per item, and limit per claim, any cost over the basic, expanded, or deluxe coverage is left to the customer to pay.

- *"KCP&L will not be responsible for damage (1) to Appliances not owned by the Customer; (2) to property of Customer that, in KCP&L's sole and reasonable discretion, does not constitute an Appliance; (3) to Customer's residence; (4) to products, materials, data or information used or stored in an Appliance; (5) caused by a surge which has not passed through the surge protection device at the electric meter; (6) caused by a direct lightning strike to Customer's premises; (7) caused by the improper installation of the grounding electrode system under the standards in the National Electric Code, or (8) to residential heating and cooling equipment."* KCPL confirms limited coverage. KCPL surge protection insurance will not cover anything it deems not an appliance, will not cover damages to the home (wiring and derivative damages), will not cover produce within an appliance (such as refrigerated goods), and will not cover damages to HVAC systems or water heater systems.

- *"Customer individually and on behalf of its insurers waives all rights of subrogation*

against KCP&L.” KCPL’s Surge Protection agreement removes all rights of subrogation from the customer and the customer’s insurer. Upon immediate inspection this clause, it appears to be intended for the scenario where the surge protector fails to do its job (if KCPL didn’t manufacture the device this is understandable). However, the clause could also be extended to the scenario where the surge protector is not designed to prevent damages from secondary bolted faults. Removing the customer’s right to subrogate in that scenario could be the primary justification for the Surge Protection offering in the KCPL business plan. Legal cost and cost of damages, as seen in this event, range in the hundreds of thousands of dollars.

- The terms and conditions of the surge protection insurance provides the following customer responsibilities:

CUSTOMER'S RESPONSIBILITIES: KCP&L shall have continuous access to the surge protection device, which is owned by KCP&L and installed at the meter. KCP&L has general responsibility for maintaining and servicing the surge protection device at the electric meter. However, Customer will be liable to KCP&L for any damage to the surge protection device at the electric meter including without limitation, damage caused by Customer's misuse or abuse of the surge protection device at the electric meter or damage caused by removal, transfer, or tampering with it or by vandalism or an Act of God, except that Customer will not be liable for damage to the surge protection device at the electric meter from a power surge passing through it. The Agreement shall be automatically canceled if the surge protection device at the electric meter is damaged other than by a power surge passing through it, and KCP&L will have no obligation to replace the surge protection device at the electric meter. Customer will maintain information about the make, model, age and cost of Customer's appliances or home or office electronics equipment and shall provide that information to KCP&L upon KCP&L's request for it. Customer shall cooperate with KCP&L and provide KCP&L with all information KCP&L requests of Customer for KCP&L to assert a breach of warranty claim against the Manufacturer of the surge protection device. Customer shall present any claim under this Agreement to KCP&L, along with sufficient information to support the claim, not later than ninety (90) days after Customer discovers or reasonably should have discovered the basis for the claim. Both Customer's electric utility and Meter-based Surge Protection accounts MUST be kept current for the Meter-based Surge Protection Warranty to be in effect.

- *“Customer will be liable to KCP&L for any damages to the surge protection device [given the surge passed from the secondary to customer wiring through the device.]”*

KCPL claims it will cover agreed upon surge damages as long as the surge passes through the device meaning the device failed to perform its function.

- *“Customer shall cooperate with KCP&L and provide KCP&L with all information KCP&L requests of Customer for KCP&L to assert a breach of warranty claim against the Manufacturer of the surge protection device.”* KCPL obligates the customer to assist the KCPL in subrogation efforts that are a result of the device failing to perform its function.

- *“Both Customer’s electric utility and Meter-based Surge Protection accounts MUST be*

kept current for the Meter-based Surge Protection Warranty to be in effect.” KCPL

reserves discretion on whether or not the customer is current and the damages are covered on top of the previously noted list of conditions.

3. In **Section II FACTUAL BACKGROUND – Paragraph 16**, KCPL states that it is unaware of Ms. Littich’s credentials regarding electrical systems.

COMPLAINANT RESPONSE: In discovery, has the commission’s staff been provided any KCPL standards, design documentation, operating documentation or construction documentation that includes licensed credentials? If so, please describe the items.

4. In **Section III REPLY TO STAFF REPORT – Article A**, KCPL claims an interpretation of the NESC that can be summarized as:

- a. Part 1 of the NESC is intended to cover electric supply equipment, conductors and structural arrangements in indoor and outdoor areas; more specifically, areas that are generating stations, switching stations, and substations. KCPL further explains that the transformer in question is not installed in those areas and therefore is not subject to NESC Part 1 compliance requirements.
- b. Part 2 of the NESC, “Safety Rules for the Installation and Maintenance of Overhead Electric Supply and Communications Lines”, is the applicable NESC code for the type of overhead facilities in questions.
- c. KCPL applies this rationale to dismiss Staff identified violations to NESC Rules 121A, 153 and 161.
 - i. KCPL also applies this rationale for the transformer: because it’s installed in the lateral, it is not a power transformer.

COMPLAINANT RESPONSE:

Complainant requests the Commissioners and Staff to review and apply the following interpretation of the code, or similar:

- The NESC code is deliberate, careful, and provides exceptions where required. The general methodology when applying the NESC is to build allowances by complying with

requirements. There are at least three key NESC paragraphs/provisions that clearly communicate the intent of the code for the electric supply conductors and equipment in question.

Item 1: Rule 012A

012. General rules

- A. All electric supply and communication lines and equipment shall be designed, constructed, operated, and maintained to meet the requirements of these rules.

- The NESC clearly divides compliance requirements into design requirements, construction requirements, operation requirements and maintenance requirements.

Item 2: Scope 101 (Part 1)

101. Scope

Part 1 of this Code covers the electric supply conductors and equipment, along with the associated structural arrangements in electric supply stations, that are accessible only to qualified personnel. It also covers the conductors and equipment employed primarily for the utilization of electric power when such conductors and equipment are used by the utility in the exercise of its function as a utility.

- The NESC notes that Part 1 covers conductors and equipment employed primarily for the utilization of electric power when such conductors and equipment are used by the utility in the exercise of its function as a utility. Functioning as a utility in this context is to mean operating.
- There is no exception in the scope that prevents Part 1 being used with Part 2 because it is needed for a completed allowance. Part 1 instead provides application specific exceptions as will be discussed in Item 4: Rule 153 below.

Item 3: Scope 201 (Part 2)

201. Scope

Part 2 of this Code covers supply and communication conductors and equipment in overhead lines. It covers the associated structural arrangements of such systems and the extension of such systems into buildings. The rules include requirements for spacing, clearances, and strength of construction. They do not cover installations in electric supply stations except as required by Rule 162A.

NOTE 1: Part 4 contains the approach distances and work rules required of supply and communication employers and their employees working on or near supply and communication lines and equipment.

NOTE 2: The approach distances to energized parts, and other requirements applicable to the activities of utility or non-utility construction personnel, and others in close proximity to existing supply lines are governed by the Occupational Health and Safety Administration (OSHA), federal, state, or local statutes or regulations.

- The NESC clearly describes the rules in Part 2 to include requirements for spacing, clearances and strength of construction. There are also some provisions provided for maintenance and personnel safety.
- There is a noted exception that Part 2 construction requirements are not to be applied to Part 1 except for Rule 162A which covers overhead supply lines exiting a supply station. This is because Part 1 otherwise includes Part 2 Installation and Maintenance scope but for electric supply stations instead of overhead supply. This is indicated by “along with the associated structural arrangements in electric supply stations” in Part 1.
- A utility’s application of the NESC Part 2 Rules for the transformer in question pertains to the installation and maintenance of overhead supply lines and overhead supply equipment, not functioning or operating it for the purposes of electric utility supply. Those additional compliance requirements are per Part 1.

Item 4: Rule 153

153. Short-circuit protection of power transformers

Power transformers shall be provided with means to disconnect automatically the source of supply of current for a high magnitude short circuit (fault) within the transformer.

The devices for automatically disconnecting the source of supply may be a circuit breaker, circuit switcher, fuse, thyristor blocking, or other reasonable methods either locally or remotely connected to the transformer. This includes disconnecting the generator electric field source together with the source of mechanical energy upon detection of a fault in either the generator step-up or station auxiliary transformer. Removing a single phase rather than all three phases to extinguish short-circuit current is acceptable.

EXCEPTION: Transformers other than power transformers are exempt from this rule. This includes instrument transformers, neutral grounding transformers, regulating transformers, and other transformers specifically for control, protection, or metering.

- There is no exception provided that states overhead power transformers function differently from those located in a supply or distribution facility. There is only exceptions for different types of transformers.
- KCPL's claim that the transformer in question is not a power transformer is inaccurate much like KCPL's previous claim that a 20A fuse is the same as a 10A fuse. Transformer manufacturers produce pad-mounted and pole-mounted power transformers that function identically (in the context of functioning for electric utility supply), but accommodate the divisions in structural arrangement requirements in the NESC.

3. In **Section III REPLY TO STAFF REPORT – Paragraph 16**, KCPL claims KCC Staff has created analyses based on speculation and assumptions that cannot be proved and has used conclusions drawn from analyses to make recommendations solely on the basis of a single isolated incident.

COMPLAINANT RESPONSE:

- KCPL has yet to provide a sound technical justification that contradicts Staff's analysis of CT data, fuse coordination, and natural conclusion drawn from cascading KPCL design to their entire system, at least for every 50 kVA power transformer owned and operated by KCPL.
- KCPL has yet to substantiate that this is a single isolated incident. In fact, KCPL Staff, in other KCC dockets such as the digital versus analog meter docket, provides that KCPL

does not staff fire investigators or perform root-cause analysis that would allow KCPL's claim that this is an isolated incident. KCPL believes fire investigating is a special, trained or certified capability beyond what KCPL can provide because it does not employ it.

- Complainant has provided preliminary research including media reported events that are strikingly similar to this complaint's events (evidence of delivery to staff has been provided to KCPL).
- Preliminary NFIRS research provide results that warrant further analysis but otherwise show a possible wide spread damage area, much more so than complainant's media report findings. Due to the large quantity of incidents, further review would be required.

4. In **Section II REPLY TO STAFF REPORT – Paragraph 18, Footnote 8**, KCPL claims that “In addition to its regularly scheduled trimming cycle, KCP&L requested that its tree trimming contractors over-trim the secondaries behind complainant's home in order to better prevent any additional vegetation issues. That work was completed in January of 2016.”

COMPLAINANT RESPONSE:

- Tree trimming occurred much later than the event (actually multiple events in that week). The event occurred in late May and an investigation was conducted early to mid-June. Per their own claims, KCPL identified the cause of the fire and property damage to multiple homes as a tree limb, but never took the corrective action of trimming the trees until January of the next year, after the complaint was filed.
- KCPL action to meet all clearance requirements is further encouraged for the remaining length of the primary and the other two phases of the feeder. Despite KCPL's described action of over-trimming, much of the circuit still interacts with vegetation that caused numerous outages in 2016. Two notable events include:
 - Wednesday June 22, 2016 around 2:00 PM; Weather – Sunny/Clear skies and Hot, heat index was above 100°F.

○ Friday August 26, 2016 around 9:00 PM; Weather – Heavy down pour conditions which caused vegetation interference near 56th and Broadmoor. Complainant observed hearing loud electrical discharge prior to a reclosure functioning. Reclosure function repeated itself at least **seven times** before service was in outage.

- As previously included, KCPL’s online brochure for Surge Protection states “*The average house can be subject to numerous power spikes and surges every day, in addition to those that occur during thunderstorms. Regular surge protectors and power strips don’t work until the damaging surge is already inside your home. [etc].*” KCPL is aware that vegetation interferences can provide irregularities that degrade customer property. KCPL is also aware of their clearance responsibility.

5. In **Section III REPLY TO STAFF REPORT – Article F**, KCPL claims that requiring a lineman to do additional investigation is unnecessary and would only prolong restoration efforts.
 1. Rule 214A5a (a component to NESC Part 2) states:

5. Corrections

- a. Lines and equipment with recorded conditions or defects that would reasonably be expected to endanger life or property shall be promptly corrected, disconnected, or isolated.

COMPLAINANT RESPONSE:

- KCPL staff utilized rule 214A5a in the response to the staff’s report as justification for splicing and crimping along the secondary. There is no justification provided by KCPL as to why they are not applying their requirement to promptly correct secondary faults to prevent reasonable endangerment to life or property per Rule 214A5a.
6. In **Section III REPLY TO STAFF REPORT – Article G**, KCPL cites Kansas Regulation: “KCPL Schedule 1.55 –Kansas Rules and Regulations, Section 7 Utilities Service Obligations” and “KCPL Schedule 1.48 and 1.50 – Kansas Rules and Regulations, Section 6, Customer’s Service”. The stated intent of the references is to claim that KCC Staff is unduly extending KCP&L’s obligation beyond the maintenance and operation of its system to that of the

customer's obligation.

COMPLAINANT RESPONSE: The state will respond as needed but the perspective of the complainant, with regard to knowledge available at this time, is as follows:

- The referenced Kansas Regulations assume compliance with the NESC, provide no exception to the NESC, and does not conflict with the NESC.
- The customer wiring beyond the point of service was compliant prior to damages incurred by the KCPL system. The damages were not a result of an act of god, but a result of the KCPL system's non-compliant design.
- This is a reasonable recommendation. Complainant recommends staff to also include over-current conditions (not in relation to the feeder but to the power transformer serving customers).

7. In **Section III REPLY TO STAFF REPORT – Article G Paragraph 27**, KCPL provides:

- “KCP&L field personnel are trained to, and experienced in, assessing the condition of utility-owned facilities and visible interconnection to customer-owned facilities, to decide whether it is safe to restore service to the system.”
- “In fact, Staff acknowledges that KCP&L did perform such an assessment in not restoring power to the premises known to have fire damage.”
- “It is impractical to suggest that KCP&L verify the condition of facilities beyond the meter, not only because it is contrary to the tariff, but because it is potentially an unnecessary and excessive intrusion on customer's private property, and would compel KCP&L to leave the service off until the customer can be contacted.”
- “This further creates the possibility that KCP&L would not restore service until affirmative confirmation can be made as to the condition of customers' facilities, which could result in the loss of refrigerated goods and other losses that might occur due to a prolonged interruption that might be wholly unnecessary”

COMPLAINANT RESPONSE: Responses are provided below respectively to how the KCPL claims are organized above:

- KCC staff recommended developing procedures which KCPL rejected, but now claims linemen are trained. How does KCPL assert KCPL linemen are trained without procedures?
 - The power was isolated on the premises of a single home. The electric supply failure significantly damaged two other homes and electric supply was restored to those two homes (1003). KCPL made no attempt to pull the meter for the two other homes that were directly connected to the transformer (no #2 copper to clear) or contact home owners on the day of the event prior to re-energizing their home.
 - It's required that KCPL take action as to what is reasonably expected to endanger life or property.
 - KCPL claims provide refrigerated goods as a reason for restoring power, yet damaged incurred by KCPL's system allowed for the complainant's refrigerator to fail (due to sustained KCPL phase reversal) such that goods were lost regardless of the power being restored – the refrigerator had the sounds of operation (fans) but over days the complainant realized, due to smell, that the compressor cooling system was not functioning. KCPL actions and rationale are unsound and unsafe.
6. In **Section III REPLY TO STAFF REPORT – Article G Paragraph 31**, KCPL provides that "Staff's Report appears to suggest that KCP&L take responsibility to know, inspect, and repair the customer's side of the service."

COMPLAINANT RESPONSE: Complainant recognizes Staff intention is for KCPL to know, inspect and repair its own service with respects to requirements so that KCPL isn't subjected to customer side complaints due to code violations. This would provide relief for both KCC and KCPL resources.

CONCLUSION

KCPL, as an operating utility and given their recent response, has effectively supported KCC's staff's recommendations for more extensive proceedings. Based on the KCPL application of the NESC, the proceedings can include any operational requirement, as described in NESC Part 1, that pertain to KCPL's overhead electrical supply system. Complainant's stated objective is to have KCPL's electrical issues addressed. Complainant trusts KCC Staff's methodology and discretion.

Respectfully submitted,



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