

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

FILED²

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Missouri Public
Service Commission

Zoltek Corporation,

Complainant,

v.

Union Electric Company,
d/b/a AmerenUE,

Respondent.

Case No. EC-2001-345

BRIEF OF RESPONDENT
UNION ELECTRIC COMPANY d/b/a AMERENUE

I. Procedural History

On September 13, 1999, complainant Zoltek Corporation ("Zoltek") filed suit in the Circuit Court of the City of St. Louis asserting claims for breach of contract and negligence against Union Electric Company d/b/a AmerenUE ("AmerenUE"). In response, AmerenUE filed a motion to dismiss, asserting that the Missouri Public Service Commission (the "Commission") has primary jurisdiction over the claims asserted by Zoltek. On October 23, 2000, over Zoltek's opposition, the Honorable Michael B. Calvin ruled in favor of AmerenUE and ordered the parties to submit to the Commission all issues regarding AmerenUE's "rendering of electrical service to [Zoltek] and the safety and adequacy of such service."

On November 21, 2000, Zoltek filed its complaint herein. On June 15, 2001, Zoltek filed direct testimony of its witnesses: Zsolt Rummy, Wayne Agne, Michael Arnold, David Spahn, Mike Moran and Dean Park. On September 17, 2001, AmerenUE filed rebuttal testimony of its witnesses: David Wakeman, Jeffrey Hackman, William Carr, Bartholomew Angeli, James

Hulse, James Burke and J. Derald Morgan.¹ Zoltek thereafter filed surrebuttal testimony on October 17, 2001. A hearing was held in Jefferson City before the Honorable Kevin A. Thompson on January 22, 23 and 24 and March 5, 2002.

II. Witnesses

The following witnesses provided testimony to the Commission in this matter:

A. On Behalf Of Zoltek

Zsolt Rummy ("Rummy"), Zoltek's president and chief executive officer, has a Bachelor of Science degree in chemical engineering from the University of Minnesota. (Rummy Direct Testimony² p. 1). With his direct testimony, Rummy provided a log of 277 "service quality incidents" (Exhibit 21), which was purported to be a summary of electrical events that occurred at Zoltek between 1993 and 2001 as witnessed by Zoltek employees. (Transcript page³ 254). The log of service quality incidents (the "Log") is the primary basis of Zoltek's evidence in this matter. (Tr. 187, 568-69).

Dean Park ("Park") has a Bachelor of Arts degree in electrical engineering with a major emphasis on power systems and has prior experience working for Illinois Power. He currently works at his own firm. (Park D.T. 1). Park was retained by Zoltek to testify as an expert on its behalf. (Tr. 552-560). The Log of 277 incidents provided the sole basis for his testimony and opinions. (Tr. 568-69).

Michael Moran ("Moran"), an employee of Zoltek, is a mechanical engineer with a Bachelor's of Science degree in mechanical engineering. He is not an electrical engineer and is not a registered professional engineer in Missouri. (Tr. 183). He has been the operations

¹ In addition to the witnesses who submitted written testimony, Martin Eckelkamp and Edward Bradley, both employees of AmerenUE, were subpoenaed by Zoltek to testify live at the hearing of this matter.

² Direct Testimony is designated herein as "D.T. ____," Rebuttal Testimony as "R.T. ____" and Surrebuttal Testimony as "S.T. ____."

³ Hearing testimony is designated herein as "Tr. ____."

manager and/or the plant manager for Zoltek at its Missouri Research Park facility since 1998. (Moran D.T. 2; Tr. 167). While he has had some courses on "circuits," Moran admitted he did not know electricity that well. (Tr. 183-84). Attached to Moran's direct testimony was a portion of the Log covering incidents that occurred from 1996 through 2001. (Moran D.T. 3). In his direct testimony, Moran stated that he had reviewed the records of the incidents from 1996 through 2001 but testified at the hearing that he had only reviewed the records from 1998 through 2001 and that he felt comfortable testifying about incidents that period only. (Tr. 147, 167).

Michael Arnold ("Arnold"), an employee of Zoltek, has a Bachelor of Science degree in electrical engineering from the University of Missouri - Rolla. (Arnold D.T. 1). Arnold worked at the Zoltek plant from 1997 through 2001. (Tr. 317-18). Arnold testified regarding Incident Nos. 141 through 277 of the Log although at the hearing he admitted he did not prepare the portion of the Log attached to his direct testimony (Exhibit MA-2) and he had not previously looked at the entire document. (Tr. 318).

David Spahn ("Spahn"), an employee of Zoltek, has a Bachelor of Science degree in mechanical engineering from the University of Illinois. (Spahn D.T. 1). He is not a registered professional engineer and is admittedly not skilled in power distribution. (Tr. 367). Spahn was plant engineer and then plant manager for Zoltek between 1993 and 1997. The schedule provided with his direct testimony covers Incidents Nos. 1 through 85 (Spahn D.T. 2) but he also did not prepare any portion of the Log (Tr. 356) and did little to check its accuracy. (Tr. 357-61).

Wayne Agne ("Agne"), an employee of Zoltek, has a Bachelor of Science degree in electrical engineering from Southern Illinois University - Edwardsville. (Agne D.T. 1; Tr. 236).

He also is not a registered professional engineer. (Tr. 236). Exhibit WA-2 to Ange's direct testimony lists Incident Nos. 1 through 85 of the 277 incidents in the Log (Tr. 237) but at the hearing, he could only testify as to 68 incidents that occurred during his tenure at the plant between 1993 and 1995. (Tr. 240). He also had nothing to do with the preparation of the schedule attached to his testimony (Tr. 239), had done little to check the accuracy of the Log (Tr. 249-52) and had no particular recollection of the events recorded therein. (Tr. 266-68).

B. On Behalf Of AmerenUE

David Wakeman ("Wakeman"), an employee of AmerenUE, has a Bachelor of Science degree in electrical engineering from Washington University, has worked in power quality review for seven years, and has taken several advanced classes in the area of power quality and reliability. (Wakeman R.T. 1). Wakeman has been involved with Zoltek since 1995 and met with Zoltek representatives in 1997 to discuss their problems and attempted to perform a full power quality review for Zoltek at that time. (Wakeman R.T. 1).

Jeffrey Hackman ("Hackman"), an employee of AmerenUE, has a Bachelor of Science degree in electrical engineering, magna cum laude, from the University of Missouri – Rolla. (Hackman R.T. 1). He is a registered professional engineer, a member of the Institute of Electrical and Electronics Engineers ("IEEE") and has authored many papers on various electric power issues. (Hackman R.T. 1). He is the supervising engineer of AmerenUE's Wentzville District that serves the Research Park, including Zoltek's facility. (Tr. 1133).

Edward Bradley ("Bradley"), subpoenaed by Zoltek to testify at the hearing, is an AmerenUE employee. Bradley has a Bachelor of Science degree in electrical engineering from the University of Missouri – Rolla and a Master's of Business Administration from the University of Missouri – St. Louis. (Tr. 507). Bradley has worked for AmerenUE for 17 years

and is presently a distribution standards engineer. (Tr. 506). In 1993 and 1994, Bradley performed limited monitoring of the electrical service provided to Zoltek. (Tr. 507, 509).

Martin Eckelkamp ("Eckelkamp"), subpoenaed by Zoltek, is also an AmerenUE employee. Eckelkamp has a Bachelor of Science degree in electrical engineering and is a registered professional engineer and licensed electrician. (Tr. 431). He performed limited monitoring of the electrical service provided to Zoltek in June and July 2000. (Tr. 432).

Bartholomew Angeli ("Angeli"), an AmerenUE employee, has a Bachelor of Science degree in electrical engineering from the University of Missouri – Rolla. He has worked in the power distribution field for 19 years. For the last 12 years, he has served as AmerenUE's liaison to the National Lightning Detection Network. (Angeli R.T. 1). Angeli testified as to the extreme lightning and severe weather conditions that occurred in 1993 in the St. Charles, Missouri area, where Zoltek's plant is located.

William J. Carr ("Carr"), a long-time AmerenUE employee, has been employed as Vice President of Customer Service since 1988. (Carr R.T. 1). Carr testified as to the steps AmerenUE took to try and satisfy Zoltek's complaints and concerns over the years.

James B. Hulse ("Hulse") is employed by AmerenUE in Jefferson City as a Business Development Executive. (Hulse R.T. 1). Hulse testified regarding the agreement AmerenUE entered into with the University of Missouri in 1988 concerning service to the Missouri Research Park, as well as dealings he has had with Zoltek.

James J. Burke ("Burke") was retained as an expert by AmerenUE. Burke has a Bachelor of Science degree in electrical engineering from the University of Notre Dame. Burke is a fellow of the IEEE and present chair of the IEEE's, Working Group on Voltage Quality. (Burke R.T. 1). Burke has been an IEEE distinguished lecturer in the area of power quality and

reliability and is the author of numerous books, articles and technical papers on power quality and reliability issues. (Burke R.T. 2). Burke testified regarding the 2000 monitoring by AmerenUE, with which he was involved, as well as issues relating to the reliability of electric service AmerenUE has provided to Zoltek.

J. Derald Morgan ("Morgan") was retained by AmerenUE as an expert in this matter. Morgan is currently employed as a Vice President of the University of Alabama in Huntsville. He is also president of his own consulting engineering firm. Morgan has a Bachelor of Science degree in electrical engineering from Louisiana Tech University, a Master's of Science degree in electrical engineering from the University of Missouri – Rolla and a Ph.D. from Arizona State University. He is also a fellow of the IEEE, a fellow of the National Academy of Forensic Engineers, a member of numerous engineering organizations, author of numerous studies and publications dealing with various electrical power issues and has specialized in teaching, research and publishing in the area of electrical power systems. (Morgan R.T. 1-3). Morgan also testified as to the reliability of electric service AmerenUE has provided to Zoltek.

III. Statement Of Facts

A. History Of Zoltek

Zoltek operates a carbon fiber manufacturing plant in the Missouri Research Park ("the Research Park"). Zoltek first considered building a facility in the Research Park in 1990. (Rumy Depo.⁴ 17). Construction of Zoltek's facility in the Research Park began in 1991 and was completed in 1992. Production began shortly thereafter. (Rumy D.T. 3). Zoltek designed the equipment for its facility at the Research Park. (Tr. 275-76, 364). The carbon fiber manufacturing process that Zoltek utilizes at the Research Park involves heating raw carbon

⁴ Testimony from the deposition of Zsolt Rumy, admitted as evidence for all purposes at the hearing (Exs. 39, 40 41), is designated herein as "Rumy Depo. ____."

material, turning it into a different consistency which is then sold to other users for making such things as airplane brake pads. (Moran R.T. 2; Romy D.T. 2; Tr. 228-30). According to Zoltek's expert, Dean Park, there is nothing particularly unique about the Zoltek process. Zoltek produces a unique product but the processes and equipment are not uncommon either in the industry or in St. Louis in general. (Tr. 595).

Significantly, no Zoltek witnesses recalled Zoltek performing any electric power load testing or sensitivity testing on its equipment during the design or construction phase, prior to beginning its production process in 1992 or 1993. (Tr. 277, 324, 364). When production began at the Research Park plant, Zoltek and its employees had to go through a learning process with respect to the operation of the equipment. During that learning curve, there were some fires, referred to as exothermic reactions, which were not caused by electricity problems but rather were admittedly caused by Zoltek's operation of the equipment. (Tr. 275-76). Romy testified that at least one outage on the Log occurred as a result of carbon fibers getting into Zoltek's electric control room, something he admitted occurred as part of Zoltek's normal manufacturing process. (Tr. 93). Zoltek also experienced other "internal" incidents which were not even recorded on the Log and about which it offered no testimony or explanation.⁵ (Tr. 194-95).

B. Missouri Research Park

The Research Park is a development owned by the University of Missouri and located in St. Charles County, Missouri. There are approximately 20 commercial tenants at the Research Park. (Tr. 1166). In the late 1980's, well before Zoltek began to consider whether to build a plant in the Research Park, AmerenUE agreed to provide electrical service to the Research Park and entered into an agreement with the University of Missouri in regards thereto. (Ex. 34).

⁵ As Morgan testified, "blips" and "flickers," as Zoltek called them, will occur normally, as part of any interconnected system. (Morgan D.T. 6).

Zoltek was neither involved with nor a party to the agreement between AmerenUE and the University.

C. Zoltek's Complaints

In 1993, a year of unparalleled storm activity, lightning and rainfall (Carr R.T. 2; Angeli R.T. 3), Zoltek began to complain to AmerenUE about power disturbances it was experiencing at the plant. Numerous communications and meetings subsequently took place between Zoltek and AmerenUE, and AmerenUE employees were instructed to take any reasonable steps to satisfy Zoltek. (Carr R.T. 2; Park D.T. 3). As a result of those communications, Bradley performed limited monitoring of the electric service going into Zoltek's plant during a two week period in 1993 and a three month period in 1994. (Ex. 28; Tr. 507, 509). Bradley's November 1993 monitoring disclosed two minor voltage sags of less than one-tenth of a second and no outages or interruptions. Both sags corresponded to weather events occurring at the same time. The three month monitoring during the summer of 1994 found a half second outage on July 8, a voltage sag of .3 seconds on July 20 which became 16.1 seconds and a 7.7 second outage on August 7. (Ex. 28; Tr. 507-17). Bradley testified these few incidents were not significant or unusual, and all but one appeared weather-related. The one that was not weather-related was apparently caused by an equipment failure beyond AmerenUE's control. (Ex. 28).

Bradley reported the results and conclusions of the 1993 monitoring to Zoltek in a meeting in December of that year (Tr. 517; Ex. 37). He confirmed AmerenUE had found no problems with the electrical service and suggested Zoltek provide some protection or "hardening" on its equipment to avoid the problems of which it was complaining. In response, Rummy became extremely irate, accusing AmerenUE of lying. (Tr. 517-19).

In 1997, Wakeman met with representatives of Zoltek and again suggested that it look into "hardening" its equipment to be able to withstand the normal electrical fluctuations (sags) it was experiencing and further offered, at no cost to Zoltek, to perform additional testing and evaluation within Zoltek's plant in order to help determine the cause of Zoltek's problems and particular steps which might be taken to harden Zoltek's equipment. Following that meeting, Wakeman wrote two letters and made several follow up telephone calls over a period of months. (Ex. 23). Wakeman's efforts to assist Zoltek were for naught, however, as Zoltek never responded to AmerenUE's offer of assistance. (Wakeman R.T. 1-3; Tr. 369-70; Ex. 23).

In 2000, Moran complained to AmerenUE regarding two outages Zoltek had suffered in the summer of 2000. (Tr. 224-25). Thereafter, pursuant to a court order sought by AmerenUE, limited monitoring was again performed, which revealed only a few minor voltage sags and no outages or interruptions. (Tr. 432-34; 1183-87; Wakeman R.T. 8).

D. Zoltek's Log Of "Service Quality Incidents"

As virtually the sole support for its claims of unreliable service, Zoltek produced the Log (Ex. 21), listing what it called "service quality incidents," and which purported to summarize what Zoltek's employees had perceived as electrical events at the plant. These incidents included anything from blips to flickers or the dimming of lights to complete outages that occurred at Zoltek between 1993 and 2001. (Tr. 254). Notably, the terms "service quality incident," "blips" and "flickers" were coined by Zoltek but have no meaning in the electric industry. (Burke R.T. 3-6; Morgan R.T. 4-5).

Rumy acknowledged that he believed about 265 of the 277 incidents on the Log were mere blips and flickers which were not outages or, in other words, not incidents of complete loss of power to the plant. (Tr. 87, 91, 101-102). Furthermore, he stressed that Zoltek was not

worried about individual blips and incidents where the lights dimmed. (Tr. 112). Instead, he was only concerned with the dozen or so outages which were only a small percentage of the 277 incidents. (Tr. 82, 86). This testimony was in stark contrast to what Rummy had stated in his deposition, where he testified that each of the 277 incidents on the Log were "life threatening" and had a tangible effect on Zoltek's manufacturing process. (Rummy Depo. 45, 48-49).

Rummy contended that any interruption of power that shut off Zoltek's equipment was very costly in terms of time and materials lost. (Rummy D.T. 6). He testified that outages that shut down machinery were the problem, not blips or flickers. (Tr. 73, 106) Only the outages caused Zoltek to lose production and purportedly put its employees at risk. (Tr. 87). Similarly, Arnold testified that what he was really concerned about is when the equipment was shut off. (Tr. 320-21). According to Spahn, the real problem about which he was concerned was when an oxidizer goes down for such a period of time that the product has to be taken out of the oxidizer and scrapped production time is lost. (Tr. 380-81). However, he did not know how many times that has happened since 1993. (Tr. 381-83).

While Zoltek emphasized the negative effects that outages can cause at its plant, it provided no testimony, except for Rummy's approximation of a dozen, as to how many times it suffered outages (or more particularly how many times it suffered production loss as a result of outages) nor was it able to demonstrate how many times an outage was caused by something AmerenUE did or didn't do. Rummy did not recall seeing any of the dozen outages himself, largely because he was usually not at the Research Park. (Tr. 100). The Log itself shows that someone at Zoltek described a little over 200 of the 277 incidents as being "blips" or "flickers." (Ex. 21). While other incidents were described in the Log as being of a particular duration, as

Rumy looked at the Log, he could not say which of the incidents had an effect on their plant processes. (Tr. 140).

Moran acknowledged that when he described how the power quality incidents create the risk of fire and explosion and caused a loss of production, he was not claiming that happened in every incident. (Tr. 179-80). Further, he did not claim that every incident listed had an effect on the equipment at Zoltek. (Tr. 181). Moran described the Log as "too generic," saying he could not tell which of the incidents were ones where the power went out completely. (Tr. 149). He did not think there was any document that reflected whether an incident was a sag or an outage (Tr. 149) and he did not know how many of the incidents were severe loss incidents. (Tr. 193).

Moran also provided some insight into how the Log (actually the document underlying the Log) was prepared. Incidents were recorded by various employees after the fact. (Tr. 170). The employees' first assignment was to tend to the equipment and, only when that was done, to make a record of the incident. (Tr. 169). The duration of the incident was not measured by a timer or watch but was only an approximation. The imprecise nature of the Log was underscored by Moran's admission that the designation of an incident as a minute could actually refer to one that lasted anywhere from one second to one minute, a significant fact considering that some of Zoltek's witnesses were critical of the duration of the incidents. Finally, an examination of the few pages of the documents underlying the Log which were introduced into evidence (Ex. 18) reflected several incomplete or inaccurate entries. (Tr. 172-77, 221).

Agne also described the interruption of power, loss of material and other problems, but he also did not say how many times that occurred. (Agne D.T. 4). Agne acknowledged that he was not saying that all of the 68 incidents with which he was somewhat familiar caused process equipment at Zoltek to shut down. (Tr. 255). Further, he could not identify any one particular

entry in the Log which caused an effect on the Zoltek process equipment and he has no particular personal recollection of any of the events. (Tr. 265-66). He admitted that when he described, in his direct testimony, how the product properties are adversely affected in certain situations, he could not say how many times it happened. (Tr. 270). Also, he admitted that when he testified about an exothermic process, where the temperature reaches a critical point which may cause a fire, he could not tell of even one specific incident when that had happened. (Tr. 272-73).

Arnold also described in detail the negative results of power being lost but did not testify as to how many times, if ever, this happened. (Arnold D.T. 4). Furthermore, Arnold testified that he could not tell which of the entries in the Log reflected incidents where the equipment at Zoltek was shut off. (Tr. 319). Regarding the incidents about which he testified in his direct testimony, he did not know how many times the equipment at Zoltek was shut off, and Agne did not know what caused the equipment to shut off. (Tr. 320-21). Regarding his direct testimony as to the potential for a safety hazard, he could not say how many times that had actually happened. (Tr. 323-324). Further, he did not know how frequently Zoltek experienced outages or electrical problems that resulted in shut downs. (Tr. 332).

Spahn testified that interruptions shut off the machines and explained that in longer incidents, the material must be removed from the machines, but he offered no testimony as to how many times Zoltek had experienced such interruptions as a result of electrical failure. He also described the cataclysmic fire scenario but again did not testify that this ever occurred as a result of electrical failure. (Spahn D.T. 3-4; Tr. 389). Spahn also could not say how many incidents on the portion of the Log attached to his testimony resulted in a shut down of the manufacturing process at Zoltek. (Tr. 364-65). While he agreed the real problems were outages which caused Zoltek to lose product and production time, he could not say how many times that

had happened since 1993. (Tr. 381-83). He also agreed that equipment can also shut down as a result of mechanical failure as opposed to an electrical failure. (Tr. 383-84). Regarding his direct testimony, where he described loss of electricity causing a pump to fail and over-pressurization of the vessel and a relief valve blowing and allowing hot gas to escape (Spahn D.T. 4), he could not say how many times that had happened. In fact, he testified that in the 10 years at the facility, no one has ever been injured by fires or ruptures of equipment. (Tr. 389).

Park, Zoltek's expert, also could not identify outages that caused lost production. Of the 277 incidents, Park did not know how many were zero power outages or interruptions.⁶ (Tr. 573). In an attempt to identify which of the 277 incidents in the Log were outages, Park removed the 27 monitored incidents (because he could tell from the monitoring data whether or not they were outages), and of the remaining 250, said he would exclude, blips, flickers and dimming and anything of a second or less duration. Anything between a second and two seconds would be a gray area where he could not say whether or not there had been an outage. (Tr. 678-82). Eventually, he admitted that only Zoltek employees could testify as to how many outages there actually were (Tr. 682-83), which, as noted herein, they were largely unable to do. Park also could not identify the voltage variation in any of the 250 incidents (other than the 27 incidents previously monitored by AmerenUE or Hewlett Packard). (Tr. 650-66).

Zoltek prepared a document (Ex. 19, supplemented after the hearing by Ex. 24) in an effort to demonstrate the effect the 277 incidents had on the plant. (Moran Tr. 196-97). These exhibits show that for a large majority of the incidents, there was no effect or impact upon Zoltek's plant. Zoltek's records show that there were only about 85 incidents which had some

⁶ Interestingly, while the Log as attached to Rummy's testimony is titled "Summary of Service Quality Incidents" (Ex. 21), the title of the Log as attached to Park's testimony is called "Summary of Power Interruptions/Outages" (Ex. DAP-6). Although Park could not explain how the title came to be changed on his version of the Log (Tr. 567), the misleading nature of the title soon became apparent since only a small percentage of the 277 incidents were actually interruptions or outages.

effect on particular pieces of equipment at the plant (Exs. 19, 24) but they do not reflect such things as how long the piece of equipment was down, whether Zoltek was able to restart the equipment (and if so how quickly), whether Zoltek lost production or material or, most importantly, what caused the incident. Zoltek offered no credible testimony that the impact on the equipment was caused by AmerenUE's electrical service, or alternatively, was not caused by something else such as mechanical failure of Zoltek's equipment or the wiring of that equipment, for which AmerenUE is not responsible and has no control.

As discussed above, AmerenUE did some limited monitoring of the power serving Zoltek's plant in 1993 and 1994. That monitoring found only minor sags and three very brief outages (all of which corresponded to weather events or equipment failure outside of AmerenUE's control). (Ex. 28). AmerenUE's 2000 monitoring detected three sags and no interruptions or outages. (Tr. 433-34). During the 2000 monitoring, some of Zoltek's pieces of machinery shut down during some of the sags but not all of them. While Eckelkamp, who performed the 2000 monitoring, was unable to determine why the particular machines turned off when they did, he testified there is monitoring and testing that can be performed to make such determinations but he was not allowed to do it. (Tr. 445). Further, he said the sags reflected in his monitoring are typical sags that every customer experiences and there is no utility that can prevent them from happening. (Tr. 446). Based on his monitoring and his experience, Eckelkamp testified that AmerenUE's service to Zoltek was reliable. (Tr. 464). Wakeman, Burke and Morgan all testified that the results of the 2000 monitoring showed that Zoltek's equipment sometimes shut down due to minor sags, which led them to believe that Zoltek's equipment is overly sensitive. (Wakeman R.T. 8; Burke R.T. 7; Morgan R.T. 5-7; Tr. 884-86, 913, 1187, 1190-192).

Hackman testified that the substation serving the Research Park is equipped with a sophisticated supervisory control and data acquisition system that transmits data regarding voltage, current, power and the like. (Hackman R.T. 5). The system records events that might impact a customer but does not record insignificant sags that should not have any effect. (Hackman R.T. 6). 259 of the 277 incidents on Zoltek's log did not correlate to events recorded by AmerenUE's system. (Hackman R.T. 6). Hackman also noted that all of the customers at the Research Park experience the same electrical events and would see the same sags and yet Zoltek is the only one that has complained about the service. (Hackman R.T. 7).

E. Sags Are Inevitable Events Outside AmerenUE's Control

While it was unclear how many, if any, of the incidents that Zoltek has experienced were outages (beyond Rummy's dozen estimate) or, more particularly, how many of the incidents were outages that caused lost production, it is undisputed that the vast majority of incidents were what Zoltek has been calling blips and flickers, and what the industry calls sags and voltage variations. Furthermore, it is undisputed that sags are an inevitable part of any electrical power system (Morgan R.T. 13) and Zoltek knows it will experience sags and that they are inevitable.

Even Park conceded that no power system is "perfect" and that Zoltek, like any other consumer of electricity, has to tolerate voltage variations. (Park D.T. 17; Tr. 592). He added that Zoltek also understands there will be outages associated with major storms and accidents outside of AmerenUE's control. (Park D. T. 18). Moran agreed, stating that Zoltek understands there are going to be sags and he believes Zoltek can be fairly "robust" in responding to those sags. (Tr. 226-27).

Arnold, a Zoltek employee who has had formal training in electrical engineering, also admitted that Zoltek did not expect a "perfect" supply of electricity and acknowledged that any

system is going to have sags and even outages. (Tr. 326-27). Spahn admitted that when Zoltek was designing its facility, it could have anticipated sags (Tr. 378-79) and understands there will inevitably be some incidents in the power supply. (Tr. 398).

F. The “Looped System”

There was testimony offered by Zoltek at the hearing concerning the issue of the looped system to serve the Research Park, most of it irrelevant. The 1988 agreement between AmerenUE and the University of Missouri (Ex. 34) spoke of a looped service to the Research Park to be installed “as required.” Hulse testified that the installation of the looped system was delayed following discussions with the University. (Hulse R.T. 3-4). Rummy admitted he had no knowledge of the discussions between AmerenUE and the University as to the timing of the looped system. (Rummy Depo. 42-43; Tr. 129-31). Despite this, Rummy contended the looped system was a primary concern of his. (Tr. 129-30). However, there was absolutely no testimony that the looped system would have had, or did have, any impact on the problems Zoltek claimed to be experiencing. In fact, the opposite was true.

As noted, Zoltek’s complaints were primarily with respect to the frequency of the “service quality incidents.” (Tr. 582-83). There was agreement between AmerenUE’s experts and Zoltek’s expert that a loop system would have no impact on the frequency of such incidents. (Tr. 743; Morgan R.T. 9; Burke R.T. 8). As for duration, over 200 of the incidents on the Log lasted for about one second or less, i.e. were “blips” or “flickers.” Park, Zoltek’s expert, admitted that the loop system he believes was contemplated in the agreement between AmerenUE and the University of Missouri was a manual system. (Tr. 744). He further conceded a manual loop system would not have affected a vast majority of the incidents about which Zoltek has complained. (Tr. 744). Finally, while Park opined that AmerenUE’s service

had improved over the years, he had no way to tie that improvement to the installation of the looped system. He conceded the looped system may not have had anything to do with Zoltek and he couldn't say whether Zoltek needed a looped system to have reliable service. (Tr. 728-29). Thus, the timing of the looped system, and whether it should or should not have been installed earlier, is irrelevant to Zoltek's claims here.

G. The Reliability Of AmerenUE's Service

As to the ultimate issue of the reliability of the electric service provided by AmerenUE to Zoltek, there was not only disagreement between AmerenUE and Zoltek's witnesses but also between Zoltek's witnesses themselves.

While Rummy testified that Zoltek does not need perfect service, or any more reliable service than anyone else (Rummy Depo. 20), he was unable to articulate what he considers to be reliable service. He testified that by reliable, he means less interruptions. However, he did not have any evidence to suggest that the quality of service provided by AmerenUE was not in line with industry standards other than, of course, Zoltek's subjective Log of incidents. (Rummy Depo. 134-35).

Zoltek's expert, Park, stated he based his opinion that AmerenUE's service was unreliable on the frequency and "totality" of events over time and Zoltek's experience from those events. (Tr. 582-83, 590, 616-17). Contrary to the testimony of Rummy, Moran and others, who made it clear that sags, blips and flickers which did not shut down the plant and/or cause loss production were not Zoltek's real concern, Park included such incidents in his analysis in coming to the conclusion that the service was unreliable in each year from 1993 to 2001. (Tr. 582-88, 619). He claimed it is the frequency of events that makes service unreliable and the key is the subjective view of Zoltek as a customer saying the incidents caused them a problem. (Tr. 590).

While frequency of electrical events was the key issue to Park, he struggled to provide the Commission with an objective standard of frequency of electrical events that would allow a utility or customer or the Commission to delineate reliable service from unreliable. When questioned about how many incidents in a year he considered to be an appropriate measure of unreliability, Park first said 24 incidents but then admitted he had said ten incidents in his deposition. (Tr. 613-14). Thus, while he believes ten could be reasonable, up to 24 could be reasonable as well. (Tr. 614-15). In fact, he said in any given year, it could be 10 or 12 or 20 instances. (Tr. 617-18). Finally, he conceded he could not offer a benchmark as to how many instances he would set as a threshold of reasonableness or reliability. (Tr. 619). Instead of a hard number, he preferred to make it a qualitative (i.e., a subjective) judgment. (Tr. 620). As to duration of interruptions, he said the system average was approximately 60 minutes per year (Tr. 689) but did not want to say what would be reliable in terms of duration. (Tr. 689-92).

Burke testified that Zoltek had taken the overly simplistic (and flawed) approach of totaling up all outages, interruptions, sags, surges, dims and flickers and concluded that because there were 277 of them, AmerenUE's service was some how substandard. (Burke R.T. 6). As to the reliability of the service provided by AmerenUE, Burke testified that except for 1993, which had tremendous weather problems⁷, the service was "truly outstanding." (Burke R.T. 6). While the average amount of interruption time reported by industry monitoring is 110 minutes per year, in comparison, Zoltek had 106, 90, 19, 25, 12, less than 1 and 7 minutes of interruption annually during the period of time about which it complains. Burke testified that no utility would not find that record to be "excellent." (Burke R.T. 6). Burke also noted that industry monitoring showed customers will experience an average of 50 sags per year, which for the years 1993 to 2001

⁷ Even Park admitted that there were an excessive number of unusual weather events in 1993 and that he "would not be surprised" if many of the 1993 incidents at Zoltek were weather related (which he further admitted would have been beyond AmerenUE's control). (Tr. 707-709).

would amount to a total of 450, compared to the less than 270 experienced by Zoltek. (Burke R.T. 6). Burke agreed that AmerenUE's monitoring showed that Zoltek's equipment is extremely sensitive. (Burke R.T. 7). While sags are inevitable, they should not, in the normal course, cause Zoltek's equipment to shut down. (Burke R.T. 8; Tr. 884-85, 911-13). Moreover, blips and flickers could be caused by events internal to Zoltek. (Morgan R.T. 4). Burke concluded that the only solutions to Zoltek's problems lie with Zoltek through the use of UPS and custom power devices. (Burke R.T. 9). It was Burke's conclusion that AmerenUE is providing superior power quality by any expert's standards, and the problem is primarily sags, which are a universal problem, mitigation of which can only be accomplished at a customer's facility. (Burke R.T. 9).

Morgan testified similarly and stated that, in an effort to justify its claims, Zoltek had reached far beyond the limits of reasonableness (Morgan R.T. 3) and that Zoltek's log was misleading by trying to insinuate that the 277 incidents were outages or interruptions. (Morgan R.T. 5). In fact, he confirmed that AmerenUE has little control over the majority of incidents about which Zoltek has complained (Morgan R.T. 7), with which Park apparently would not, or could not, disagree. (Tr. 602-603). It was Morgan's opinion that AmerenUE's service to Zoltek has been first rate. (Morgan R.T. 7).

H. Zoltek's Expert Testimony

Besides the subjective, anecdotal testimony of its employees, Zoltek relies on the opinions and conclusions of its expert, Dean Park, to support its claims. However, Park's testimony as an expert should be viewed circumspectly by the Commission. To begin with, Park has never testified as an expert on the issue of the reliability of electric service. (Tr. 559-60). The extent of his "investigation" of Zoltek's problems constituted primarily of a review of

documents and attendance at a few meetings. (Tr. 563-64). He did no independent monitoring or investigation of any of the incidents or equipment at Zoltek. (Tr. 560). In fact, he has only been at Zoltek's plant on one occasion and then only for a meeting that lasted just a few hours. (Tr. 561). As Derald Morgan testified, since a blip or a flicker (which describes the vast majority of Zoltek's incidents), it is difficult to make any substantive claims with more information and being on site for an investigation. (Morgan R.T. 4). Yet Park never witnessed **any** of the "incidents" at Zoltek. (Tr. 563).

Given Park's total acceptance of Zoltek's data (which by the testimony of Zoltek's own employees was somewhat unreliable) and his failure to conduct any investigation at the plant, he really provided no credible evidence as to the basis for his conclusions as to the reliability of AmerenUE's service. Park's opinion that AmerenUE's service was unreliable at many times during the period between 1993 and 2001 was due to the frequency of the "incidents" that Zoltek recorded in its Log. (Tr. 582-83). In doing so, he admitted that he did not know which of the incidents constituted actual outages or loss of power and which were simply blips or flickers, i.e., sags or voltage variations. (Tr. 577).

Most importantly, Park was unable to provide an opinion as to the cause of the incidents. He accepted Zoltek's assertion that it was responsible for only 7 of the 277 incidents on the Log but did no investigation to confirm that fact. (Tr. 598-602). While he further opined that the cause of the problems Zoltek experienced were "on Ameren's system," he based that opinion on "our understanding [presumably Zoltek's since Park did not do anything but review Zoltek's records] that they did not emanate from within the plant, therefore, they happened on Ameren's system either under their control or not under their control." (Tr. 572-73). He could not, however, identify what was and what was not "under [AmerenUE's] control" (Tr. 602-03) nor

could he offer any suggestion as to what AmerenUE could do to improve the “unreliable” service that was caused by things within or not within its control. (Tr. 612-13, 623-24, 712-13). Thus, when the Brief of Complainant (p. 8) touts the “utility-based solutions” Park cavalierly referred to in his direct testimony (Park D.T. 19-20), the plain fact is he knew of no solutions and had none to offer at the hearing.

Finally, Park indicated an inability or unwillingness to come up with an objective standard of reliability by which AmerenUE’s service should be judged. All he could do was to leave it to the subjective perception of the customer to determine when service was reliable and when it was not. (Tr. 616-17). Of course, such a “standard” is really no standard at all. It would set a dangerous precedent for the Commission to accept the subjective perception of a utility’s customers, without more, than a utility’s service was somehow unreliable, especially when Park admits what may be reliable service to one (or many) customers, may not be reliable just as to one (like Zoltek). (Tr. 590, 616-17).

I. AmerenUE’s Efforts To Address Zoltek’s Complaints

In response to Zoltek’s complaints, Carr directed AmerenUE’s employees to attempt to resolve Zoltek’s complaints. (Carr R.T. 2). Zoltek agreed that AmerenUE took several actions to improve its overall service in the Wentzville district. AmerenUE advanced the upgrade of the Weldon Springs substation, made numerous other upgrades to the system and offered the resources of AmerenUE’s power quality engineering team to Zoltek, at no charge, to help

determine the cause of its problems.⁸ (Carr R.T. 2-3). Finally, AmerenUE performed some monitoring of the power service to Zoltek in 1993, 1994 and 2000, to the limited extent allowed by Zoltek, but was unable to detect any problems with the power service. The monitoring did not extend to the equipment itself.

While even Zoltek agreed that AmerenUE had invested time and effort in improving the Wentzville District service (Park D.T. 11), there was little evidence of what efforts Zoltek itself had taken to address its problems. Rummy did not have any knowledge of Zoltek ever retaining an expert to do any monitoring of Zoltek's equipment inside the plant to determine if that equipment might be the cause of at least some of the incidents. (Tr. 123-24).

Per Moran, Zoltek has not done any monitoring or investigation within the plant to determine whether there was a complete loss of power at any particular time nor done any testing of the equipment to determine if Zoltek might be causing any of the incidents. (Tr. 187-88).

J. 4 CSR 240-10.030(23)

Apparently in recognition of the weaknesses in Zoltek's subjective 277 "incident" Log, Park claimed for the first time in his surrebuttal testimony that Zoltek had suffered 27 "extreme zone" events as defined by 4 CSR 240-10.030(23). (Ex. 26; Park S.T. 11-12; Tr. 753-57). Notably, Park hesitantly interpreted the regulation as defining an "extreme zone" event as any time the voltage drops below 11% below nominal voltage regardless of how long it stays below 11%. (Tr. 753). On only one occasion did any of the "extreme zone" events come even close to being a minute long. (Tr. 763). Also, while Park agrees that Zoltek uses lights and therefore is

⁸ AmerenUE's efforts to both improve its service to the Research Park and the Wentzville District, as well as respond to Zoltek's complaints, should by no means be considered as an admission that the service to Zoltek was somehow not adequate and reliable to begin with. The fact that AmerenUE is consistently seeking to better its performance does not mean there is anything wrong with that performance. In fact, AmerenUE would be remiss if it did not strive to consistently improve the service it delivers to its customers.

necessarily receiving “lighting” service as covered by 4 CSR 240-10.030(23) (A)-(C), he concluded that Zoltek’s service is “power service” and not both power and lighting service. (Tr. 766).

In response, both Burke and Morgan testified that Park was interpreting the regulation incorrectly and, further, that the regulation either didn’t apply to the 27 incidents to which Park referred, because the regulation only applies to steady state voltage, or he was incorrectly excluding the one minute qualification to that regulation. (Tr. 856-57, 864-65, 896-97, 909-10). Burke and Morgan both testified that the one minute qualification applies to all of CSR 240-10.030(23), thereby defining an “extreme zone” event as an incident where voltage drops more than 11% below nominal and stays below 11% for more than a minute. According to Burke, the regulations are intended to exclude momentary drops in voltage which are inevitable in any system.

Further, Park acknowledged that the regulation places a duty on AmerenUE to take action to restore the voltage level in the case of an “extreme zone” event (Tr. 761) and that in all 27 incidents he defined as “extreme zone” events, the voltage came back to the correct level very quickly, the way the system was designed. (Tr. 762-63). Significantly, Park admitted that he had no idea whether any of the causes of his 27 “extreme zone” events were within the AmerenUE’s control. (Tr. 764).

Finally, Park’s testimony regarding the 27 “extreme zone” events was based primarily on Bradley and Eckelkamp’s monitoring results.⁹ Bradley and Eckelkamp testified that they were familiar with the regulations; that when they performed the monitoring, they set their monitoring

⁹ Park also relied on data recorded by Hewlett Packard in 1997. Not only was the Hewlett Packard data on which Park relied not introduced into evidence (Tr. 756), Rummy admitted Hewlett Packard did not monitor Zoltek’s production equipment. (Rummy Depo. 123). Thus, using Rummy’s own words, Park’s attempt to use the Hewlett Packard data to support his conclusions (which it does not in any event) was like “comparing apples and oranges.” (Rummy Depo. 123).

equipment at levels prescribed by the regulations; and that they detected no instance where the voltage dropped below parameters set by the Commission. (Tr. 437, 484-85, 522-31).

IV. Issues

The Revised Statutes of Missouri provide that “every electrical corporation . . . shall furnish and provide such service instrumentalities and facilities as shall be safe and adequate and in all respects just and reasonable.” R.S.Mo. §393.130.1. The statute further provides that:

“No . . . electrical corporation . . . shall make or grant any undue or unreasonable preference or advantage to any person, corporation or locality, or to any particular description of service in any respect whatsoever, or subject any particular person, corporation or locality or any particular description of service to any undue or unreasonable prejudice or disadvantage in any respect whatsoever.”

It is a policy of the Commission to promote safe, reliable and efficient electrical power. 4 CSR 240-22.010.

Based on the applicable regulations and tariffs as well as the joint list of issues and position statements filed herein and the evidence presented to the Commission, AmerenUE believes the issues before the Commission are as follows:

- 1) Did AmerenUE provide safe, adequate and reliable service in a timely manner to Zoltek at its Missouri Research Park facility during the years 1993 through 2001; and
- 2) Does AmerenUE owe any obligation to Zoltek other than to provide safe, adequate, and reliable electric service?

V. Argument

A. Zoltek Has The Burden of Proving That AmerenUE Did Not Provide Safe, Adequate and Reliable Service

As set forth above, AmerenUE has the obligation to provide to Zoltek such service, instrumentalities and facilities that shall be safe and adequate and in all respects just and reasonable, and must do so without granting Zoltek any undue preference or advantage.

§393.130 RSMo. 2000. See also, 4 CSR 240-22.010. Zoltek has the burden to prove by clear and satisfactory evidence that AmerenUE has violated either the statutes, regulations or tariffs which establish AmerenUE's requirement to provide safe, adequate and reliable service.

R.S.Mo. §386.430; Sheldon Margulis v. Union Electric Company, 30 Mo. P.S.C. (N.S.) 517, 523 (1991); Deaconess Manner Association v. Union Electric Company, 1997 Mo. P.S.C. Lexis 123 (1997). Zoltek "must establish all facts necessary to support the relief it seeks by a preponderance of the credible evidence." GS Technology Operating Company, Inc. v. Kansas City Power & Light Co., 2000 Mo. PSC Lexis 1009. It is clear from the testimony that Zoltek failed to meet this burden and has, at best, proven only that it has been experiencing problems with its equipment. It has not by any stretch provided any **credible** evidence that AmerenUE's electric service has been unreliable or has been the cause of those problems.

B. Zoltek Has Not Met Its Burden And Has Given The Commission No Basis To Find That AmerenUE Has Not Provided Safe, Adequate And Reliable Electric Service

Without question, the primary basis for the testimony of all of Zoltek's witnesses in this matter is the 277 incident Log. Despite its emphasis on this Log, however, it is clear that Zoltek is not concerned with all 277 incidents but rather is focused on outages that caused the machinery to be shut off for such a period of time as to lose material and lose production. (Rumy D.T. 6; Tr. 73, 87, 106, 320-21, 380-81). Exhibits 19 and 24 ("the Effect Charts"),

reflecting which of the 277 Log incidents had some effect on Zoltek's equipment, showed that about 85 of the 277 incidents had some effect of unspecified duration on some of Zoltek's equipment for reasons Zoltek really did not explain or elaborate on. Further, neither the 277 incident Log, nor the Effect Charts, nor any of Zoltek's witnesses provided the Commission with any evidence of how many times Zoltek experienced lost production or lost material, or fire and explosions (all of which it repeatedly stated was its main concern) as a result of outages.

Contrary to Zoltek's subjective Log of incidents, AmerenUE's sophisticated system detected only 18 incidents of those 277 incidents. Explaining the difference between Zoltek's 277 incidents, the 85 or so "effect" incidents and the 18 incidents confirmed by AmerenUE, Bradley, Eckelkamp, Wakeman, Hackman, Burke, and Morgan, all qualified, competent and experienced electrical engineers, testified that Zoltek's equipment was tripping off during incidents of minor voltage fluctuations (sags, not outages) that can not be prevented by a utility and concluded that the only solution was for Zoltek to harden its equipment; in other words, make such changes so as to allow the equipment to ride through the sags. (Wakeman R.T. 8; Burke R.T. 9; Morgan R.T. 5-7; Tr. 436-46, 464-76, 519, 524, 884-86, 913, 1157-167, 1187, 1190-192).

Zoltek's response was to call AmerenUE's people liars without doing any investigation of its own. Further, Zoltek had no response as to why its neighbors in the Research Park, some of who are also manufacturers and who would necessarily experience the same electrical events as Zoltek, did not experience the repeated interruptions or "incidents" about which Zoltek complains. Consistent therewith, Zoltek provided the Commission with no evidence that AmerenUE's engineer's investigations were insufficient or that their conclusions were wrong. Rather Zoltek simply offered the incident Log and asks the Commission to assume that the

incidents are AmerenUE's fault and therefore conclude that AmerenUE has not provided reliable service.

As observed by Burke and Morgan, Zoltek appears to have offered the Log with an open-ended insinuation that many of those incidents were outages that caused the loss of material and lost production. (Burke R.T. 6; Morgan R.T. 3-5). However, any implication that Zoltek suffered numerous outages with lost production as the result of AmerenUE's service was proven to be unsupported by evidence. Listing 277 subjective incidents and then insinuating lost production without specific identification of even one such incident does not meet Zoltek's burden of proof in this matter and, more importantly, would clearly be an insufficient basis on which to conclude AmerenUE has not provided reliable service.

There was considerable testimony at trial as to the extent of the monitoring performed by AmerenUE and whether or not Zoltek cooperated in AmerenUE's efforts to identify the cause of Zoltek's problem. The limited monitoring that did occur in 1993-1994 and 2000 did not confirm the existence of the problems as complained of by Zoltek but rather found mostly minor outages and voltage sags. In fact, after the results of the 1993 monitoring were reported to Zoltek, Rummy became irate and cursed the representatives of AmerenUE who were doing their best to come up with a solution to Zoltek's problem. (Tr. 519). The limited monitoring that was done in 2000 occurred only after a court order was sought by AmerenUE. (Wakeman R.T. 2). It is clear that additional monitoring and testing could have been conducted by AmerenUE which might identify a cause of the problems Zoltek claims to have experienced but Zoltek would not allow that to be done. (Tr. 445; Ex. 23; Wakeman R.T. 5).

In his testimony at the hearing, Park admitted that he did not know the cause of the "service quality incidents" and had done nothing to try to determine the cause. He was not able

to identify anything specific that AmerenUE could do to improve the service to Zoltek. In fact, he stated it was possible that there was nothing that could be done by AmerenUE to resolve the "service quality incidents" Zoltek had experienced. (Tr. 612). Thus, even if the Commission were to find that AmerenUE's service has not been reliable, there may be nothing AmerenUE can do in response to that finding to change the level of service at Zoltek's plant.

It is easy for a utility customer such as Zoltek to blame the utility for its problems. After all, the utility provides the electricity and if there is a problem with the electricity, it must be "on the utility's system" and must be the utility's fault, right? The problem is that this Commission should (and does) require much more than unsubstantiated subjective conclusions in order to find fault with a utility's service. This is especially true where, as here, there has been no proof that AmerenUE has done anything to cause the problems at Zoltek's plant or has the ability to resolve those problems, as Park admits. It would also be remiss to find fault with AmerenUE's service when Zoltek has consistently refused to make any efforts to determine what steps might be taken to resolve these allegedly damaging and life threatening incidents.

Rumy has criticized AmerenUE's efforts to help Zoltek as a "smoke screen" (Rumy Depo. 98, 108) and contends AmerenUE ignored Zoltek's safety concerns. (Tr. 79). He has also characterized AmerenUE's employees as "arrogant, stupid and liars." (Rumy Depo. 43). However, if any party to this matter can be accused of being arrogant, it is Zoltek. Rumy admits he is more worried about the **effect** of the incidents on Zoltek's plant, not their cause. (Tr. 112). However, it is only proof of the **cause** of these incidents that can be determinative as to whether AmerenUE's service has been unreliable. If these incidents were not caused by something AmerenUE did or should have done but did not, or were caused by events out of AmerenUE's control (such as weather), there cannot be any finding of inadequate or unreliable service.

Significantly, contrary to Rummy's protestations, it is only AmerenUE that has been interested in determining the cause of Zoltek's "incidents." In addition to refusing to allow AmerenUE to conduct the very testing which might shed some light on Zoltek's problems, Zoltek failed to make any effort of its own to determine the cause of the problems. Even if Rummy distrusted AmerenUE, there was no reason for Zoltek not to have asked its own expert, Park, to conduct that analysis. Rummy admitted Park "was not retained to solve our problems." (Tr. 124). While Park testified that he has experience doing power monitoring in this area, he was not asked by Zoltek to put any of that experience to use. (Tr. 560). Yet Rummy blindly insists Zoltek "cannot contribute anything to the resolution of the problem." (Rummy Depo. 92).

Zoltek's arrogance is also exemplified by its response, or more appropriately its lack of response, to AmerenUE's efforts in 1997 to address Zoltek's complaints. The testimony of Zoltek's witnesses would lead the Commission to believe that the "service quality incidents" it has experienced at the plant were not only causing great economic damage but also presented potentially life threatening situations. In the Brief of Complainant, (p. 7), Zoltek affirms "safety is a major issue." In fact, Rummy testified in his deposition that each and every incident on the Log was a life threatening situation and affected Zoltek's manufacturing process. (Rummy Depo. 45, 48-49). While this overly dramatized testimony was disproven by Zoltek's own witnesses and exhibits at the hearing, it is difficult in light of Rummy's beliefs and concerns to comprehend his refusal to take AmerenUE up on its offer of assistance. It is clear from David Wakeman's letters to David Spahn in June and October 1997 that Wakeman was practically begging Spahn to give AmerenUE an opportunity to get to the root of Zoltek's problems. (Ex. 23). In his October 4, 1997 letter to Spahn, Wakeman stated:

"Since [Wakeman's June 4, 1997 letter] I have not heard anything from you. I have made several attempts to contact you including leaving messages with the

individuals who answer the phone at your facility. We are interested in helping you discover the exact nature of the problems at your facility. Equipment sensitivity varies widely and it is important to do a thorough investigation to determine what the cause of the problems are and what can be done to mitigate these problems.”

When asked at the hearing whether he had responded to Wakeman’s letters, Spahn could only state that he did not recall.¹⁰ (Tr. 370). A curious response indeed to the multiple and persistent “life threatening” incidents Zoltek claims it has been experiencing for nine years.

C. Assuming Arguendo That 277 Incidents Occurred As Set Forth In The Log, That Record Supports A Finding That AmerenUE’s Service To Zoltek Has Been Safe, Adequate And Reliable

There are serious concerns as to what probative value should be given to the Log. First, most of the employees who recorded the incidents were not identified nor did they present any testimony in this matter. Rather, Zoltek’s witnesses uniformly testified that they had little personal knowledge of the particular incidents in the Log and, other than Moran, had little, if any, participation in its preparation. Second, while the Log and Effect Charts refer to flickers, blips and certain machinery shutting off, they do not provide any explanation of how or why one is to conclude that those events occurred as a result of AmerenUE’s service as opposed to the myriad of other possibilities such as sags or surges within the plant due to large pieces of machinery turning on, mechanical failure within the machinery or the wiring of the equipment itself.¹¹

¹⁰ Spahn’s “lack of recollection” notwithstanding, Wakeman’s testimony is very clear that AmerenUE has never been allowed to do a full power quality/reliability investigation at Zoltek’s plant. (Wakeman R.T. 3).

¹¹ Zoltek’s Log reflects seven incidents for which Zoltek accepted responsibility. (Ex. 21). Park did not know what caused these particular incidents nor did he inquire about them or investigate if any of the other incidents on the Log may have been caused by something Zoltek did. (Tr. 571-72). Significantly, however, even beyond these seven incidents, Zoltek has also experienced other “internal” incidents which were not recorded and about which no testimony was produced. (Tr. 194-95).

Nonetheless, assuming the 277 incidents occurred, the Log actually shows that AmerenUE's electric service to Zoltek was much better than industry averages, and was not only safe, adequate and reliable but, in fact, was superior service. (Burke R.T. 6, 9; Tr. 893, 917-18; Morgan (R.T. 7; Tr. 838, 852, 893, 917-18).

It is impossible, based on Zoltek's evidence alone, for the Commission to conclude AmerenUE's service was anything but reliable because, among other things, Zoltek's own expert, Park, offered no objective standard on which to evaluate the service. (Tr. 613-20, 689-92). Park offered no credible standard of reliability or basis for his opinions but simply said that he subjectively believed, there were too many "incidents" and therefore the service was unreliable. On the other hand, Burke, having spent much of his career analyzing and assessing the reliability of electric service, testified that commercial electric customers such as Zoltek experience an average of 50 sags per year and an average of 110 minutes of interruption per year. (Burke R.T. 6; Tr. 893-94, 912, 916-17). Similarly, Morgan testified that based on actual, historical experiences of commercial customers throughout the United States, Zoltek should expect to encounter 36 to 40 electrical incidents a year and agreed with Burke as to the 110 minutes of interruption per year. (Morgan Tr. 852-5, 868). While Zoltek may have experienced near those averages in 1993, Morgan testified that, given the unique circumstances in 1993, it is his opinion that Zoltek's experience that year was actually better than he would have anticipated. (Tr. 824).¹² For the years 1994 through 2001, Zoltek did not experience anything approaching the national average rate of electrical incidents or level of interruptions. Accordingly, even

¹² As Park and AmerenUE's witnesses agreed, 1993 must be viewed as an anomaly because of the excessive number of severe weather events experienced in the St. Louis area. It is also reasonable to infer that the incidents Zoltek recorded for 1993 were perhaps caused, in part, or affected by its own internal problems, more so than in other years, because Zoltek was just establishing its plant, going through its learning curve and having problems with its equipment in 1993. (Tr. 275-76).

assuming that the 277 incidents occurred as Zoltek represents in its Log, that evidence merely supports the conclusion that AmerenUE has provided Zoltek with safe, adequate and reliable service.

Finally, besides the testimony of Burke and Morgan that such sags are inevitable and a part and parcel of the service provided by any electric utility, AmerenUE's tariffs recognize this fact. Sheet No. 138, Section J, titled "Continuity of Service," states as follows:

"Company will make all reasonable efforts to provide the service requested on an adequate and continuous basis, but will not be liable for service interruptions, deficiencies or imperfections which result from conditions **which are beyond the reasonable control of the Company**. The Company cannot guarantee the service as to continuity, freedom from voltage and frequency variations, reversal of phase rotation or singlephasing."

(emphasis added).

As noted, Zoltek has admitted its primary concerns are with the dozen or so outages that have occurred over the nine year period from 1993 to 2001. There is also little dispute that the remainder of the incidents recorded on the Log represent minor voltage sags or fluctuations. Zoltek admittedly has offered no evidence whatsoever that these 265 sags or fluctuations were not beyond the control of AmerenUE (in fact Park conceded many - or possibly all - may have been outside of anyone's control). Based on the Continuity of Service tariff alone, most of the incidents on the Log can be summarily rejected as evidence or support for Zoltek's claims.

Thus, not only did Zoltek fail to meet its burden of proving by clear and satisfactory evidence it claims that AmerenUE has failed to provide safe, adequate and reliable service, the credible evidence actually shows the opposite - that AmerenUE has provided safe, adequate and reliable, if not superior, service to Zoltek.

D. Zoltek Is Not A Party To Any Agreement Or Promise From AmerenUE As To "More Reliable Service" And AmerenUE Is Prohibited From Giving Zoltek The "More Reliable Service" To Which It Claims It Is Entitled

AmerenUE agrees with Staff and Zoltek that the Commission does not have jurisdiction to interpret or enforce any agreement between AmerenUE and Zoltek. On the other hand, the Commission certainly has jurisdiction to determine what level of service AmerenUE must provide to Zoltek. The statutes and regulations cited above require AmerenUE to provide safe, adequate and reliable service. The agreement between the University of Missouri and AmerenUE to which Zoltek has repeatedly referred comes before the Commission for two reasons: (1) Rummy, asked to identify what he considered to be reliable service, said that reliable service is that which AmerenUE obligated itself in the agreement to provide to the Research Park (Tr. 114-17) and (2) the Commission has jurisdiction to insure that the level of service which Zoltek is seeking from AmerenUE is not preferential treatment in violation of §393.130 RSMo. 2000. The questions concerning the agreement that are herein presented to the Commission are: (1) does the agreement have any impact on the level of service that the Commission will require the AmerenUE to provide to Zoltek and (2) does §393.130 RSMo. 2000 allow or entitle Zoltek to receive a different level of service than other customers.

Zoltek has argued that it is somehow entitled to a certain level of service because of representations AmerenUE made in its 1988 agreement with the University of Missouri. (Tr. 114-17). In the Brief of Complainant (p. 11), Zoltek argues that it is a third party beneficiary under that agreement. Zoltek is not a third party beneficiary to the agreement because Zoltek was not identified in any way as a potential tenant of the Research Park in 1988 when the agreement was entered into. The paramount issue in any third party beneficiary claim is whether the parties to the contract clearly intended to assume a direct obligation to the third party or

provide a benefit to the third party. Laclede Investment Corporation v. Kaiser, 596 S.W.2d 36, 41 (Mo.App. E.D. 1980); Volume Services, Incorporated v. C.F. Murphy & Associates, 656 S.W.2d 785, 795 (Mo.App. W.D. 1983). The court in Laclede Investment addressed the issue of the intent of the parties that is required to be shown, as follows:

“So it is not every promise...made by one to another from the performance of which a benefit may ensue to a third, which gives a right of action to such third person, he being neither privy to the contract nor to the consideration. The contract must be made for his benefit as its object, and he must be the party intended to be benefited. The intent necessary to establish the status of a third party beneficiary is not so much the desire or purpose to confer a benefit on the third person, or to advance his interest or promote his welfare, **but rather an intent that the promisor assume a direct obligation to him.**”

Laclede, 596 S.W.2d at 41-42 (emphasis added). There is a strong presumption that parties to a contract did not intend to benefit a third party and the implication to overcome that presumption must be so strong as to amount to an express declaration. Laclede, 596 S.W.2d at 42. In other words, it may not be speculated from the language in a contract that the contracting parties wanted to make the plaintiff a third party beneficiary. Id.

Clearly, Zoltek is unable to show a clear intent by the University of Missouri and AmerenUE, nor a strong implication amounting to an express declaration, that the parties intended to benefit Zoltek by their 1988 agreement. Accordingly, Zoltek is not a third party beneficiary of the agreement and the agreement does not impact or affect the level of service that AmerenUE is required to provide to Zoltek.

More importantly, §393.130.1 RSMo. 2000 prohibits preferential treatment for any particular customers of AmerenUE. While customers can pay for improvements and benefits that they seek, AmerenUE is prohibited from paying for improvements benefiting Zoltek and not other customers because doing so would shift the cost of those benefits, through increased rates, to other customers not benefiting from those improvements. “A consumer’s rights are

those fixed by law; that is only to receive the kind of service authorized to be rendered to all consumers similarly situated for the rate authorized to be collected therefore. Railway Exchange Building, Incorporated v. Light & Development Company, 107 S.W.2d 59, 61 (Mo. 1937). The court in Railway Exchange further stated:

“In other words, a contract provision for a preferential kind of service is just as void as a contract provision for a preferential rate. Id.

Finally the court concluded that if a consumer does not get adequate service guaranteed to them by the Public Service Commission Act, they are given by that Act a full, complete and adequate method for obtaining relief. Id. at 62. This principle was affirmed in May Department Stores Company v. Union Electric Light & Power Company, 107 S.W.2d 41 (Mo. 1937), wherein the court noted:

“If all consumers similarly situated are to be treated alike, a contract dealing with one on a different basis from others cannot be recognized.” Id. At 49.

In the end, it is apparent that the 1988 agreement is a red herring advanced by Zoltek to obfuscate the issues and to overcome its inability to prove that AmerenUE's service has been anything but adequate and reliable. Despite its repeated references to the agreement in its written and oral testimony, the fact is that Zoltek admits it is seeking only the same reliable service to which any business customer of AmerenUE is entitled. (Rumy Depo. 23; Tr. 116). As has been demonstrated herein, the obligation of AmerenUE to provide safe, adequate and reliable electric service is imposed by the Missouri statutes and the regulations and tariffs of the Commission. As a result, the agreement offers no additional support for Zoltek in its claims here. To the extent that Zoltek is seeking to somehow parlay its claimed third-party beneficiary status under the agreement (which AmerenUE disputes) into a requirement that AmerenUE

should afford Zoltek different, "more reliable" service to any other customer, that effort must fail as a matter of law due to the prohibition of §393.130 RSMo. 2000.

VI. Conclusion

Zoltek has clearly failed to sustain its burden or show that it is entitled to any relief from the Commission. AmerenUE's electric service has, in all respects, been safe, adequate and reliable as required by the statutes, applicable regulations and tariffs. As a result, AmerenUE requests the Commission enter an appropriate order denying Zoltek's complaint and finding AmerenUE's electric service to Zoltek for the period 1993 to 2001 was safe, adequate and reliable.

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Certificate of Service

The undersigned hereby certifies that a copy of the foregoing Brief of Respondent Union Electric Company d/b/a AmerenUE was hand-delivered this 5th day of August 2002 to Office of Public Counsel, P.O. Box 7800, Jefferson City, Missouri 65102, General Counsel, Missouri Public Service Commission, P.O. Box 360, Jefferson City, Missouri 65102, M. Zane Yates and Brian H. May, Yates & May, L.C., 101 South Hanley, Suite 1025, Clayton, MO 63105 and Terry Allen, 102 East High Street, Suite 200, P.O. Box 1497, Jefferson City, Missouri 65102, attorneys for Complainant, Zoltek Corporation.

