

# Appendix A

Amended and Restated Power Supply Agreement Between Kansas City Power and Light Company and GST Steel Company, dated August 12, 1994

This document is classified in its entirety as HIGHLY CONFIDENTIAL

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# Appendix B

Missouri Public Service Commission Staff Memorandum in Case No. EO-95-67

This document is classified in its entirety as HIGHLY CONFIDENTIAL

# Appendix C

Order Approving Agreement and Tariff, Case No. EO-95-67

10/28/94 15:49

314 751 9285 25314 1 9285 NO PSC

> STATE OF MISSOURI -FUBLIC SERVICE COMMISSION

At a session of the Public Service Commission held at its office in Jefferson City on the 26th day of October, 1994.

In the matter of a special contract filed by Kansas City | Power & Light Company. | Case No. E0-95-67

#### ORDER APPROVING AGREEMENT AND TARIFF

On September 6, 1994, Kansas City Power & Light Company (KCPL) filed a special contract between KCPL and one of its customers. This contract was filed under seal and the Commission established a protective order to protect the confidentiality of the information concerning the customer and the terms of the contract. KCPL also filed a tariff to reflect the contract and its terms. The tariff provisions were also filed under seal and were to be effective October 7, 1994. The effective data of the tariff was later extended to October 29, 1994.

On September 27, 1994, and September 28, 1994, respectively, Trigan-Kansas City Energy Corporation (Trigan) and Missouri Gas Energy (MGE) filed applications to intervene. By letter filed October 17, 1994, KCPL indicates that neither Trigan nor MGE will object to the provisions of the contract, nor will they object to the tariff provisions.

On October 21, 1994, Commission Staff filed a memorandum concerning the contract and the tariff. In the memorandum Staff describes the terms of the contract and recommends the Commission approve the contract and the tariff as amended by a substitute sheet filed on October 5, 1994. The information concerning the specific terms of the contract is filed under seal but Staff does indicate that the rates and charges that will be billed under the contract contain a demand charge, delivery system charge, energy charge, customer charge and a reactive demand adjustment. Staff states that it supports the

confidentiality of those types of special contracts since they deal with competitive load customers.

In addition to the tariff originally filed in this case, as substituted, Staff recommends the Commission approve a tariff sheet reflecting a change in the Table of Contents with a reference to the special contracts. This proposed tariff was submitted October 5, 1994, to become effective November 5, 1994.

The Commission has reviewed the confidential information in this matter and has considered Staff's recommendation and will approve the contract and tariff. The Commission is always concerned in matters such as this that the handling of matters outside public scrutiny does not result in discriminatory or unreasonable rates. The Commission, though, is convinced, based upon the information in the file, that this is a special situation between KCPL and a customer of competitive load and that protecting the information from public disclosure is reasonable. The Commission also believes that Trigen's and MGE's acceptance of the procedure and agreement to not object to the contract or tariff are significant.

The Commission finds further, based upon Trigen's and MGE's agreement not to object to the contract or tariff, that their applications to intervene are most and need not be ruled on.

Finally, the Commission does not believe the tariff sheet containing the addition to the Table of Contents is before it in this case. That tariff sheet was not filed in this case and was not part of the original filing. It should be handled as a thirty-day filing.

#### IT IS THEREFORE ORDERED:

1. That the special contract entered into by Kansas City Power  $\tilde{a}$  Light Company and one of its customers filed in this case is hereby approved.

**3**31<u>4-7</u>51 9285 MO PSC

That the proposed tariff filed by Kansas City Power & Light Company on September 6, 1994, as amended October 5. 1994, to reflect the special contract, is hereby approved for service on and after October 29, 1994. The tariff sheet approved is:

P.S.C. MO. NO. 6 Original Sheet No. 37

That this order shall become effective on the 29th day of October, 1994.

BY THE COMMISSION

David L. Rauch Executive Secretary

(5 E A L)

Mueller, Chm., McClure, Perkins, Kincheloe and Crumpton, CC., concur.

# Appendix D

Affidavit of Ronald S. Mulhauser

# BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

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Case No. ER-99

Affidavit Of

Ronald S. Mulhauser

On Behalf Of

**GST Steel Company** 

May 5, 1999

### BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

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#### **AFFIDAVIT**

STATE OF NORTH CAROLINA COUNTY OF MECKLENBURG § §

PERSONALLY APPEARED before me, Mr. Ronald S. Mulhauser, who, being first duly sworn, did depose and say as follows:

1. I am Vice President for Purchasing and Logistics of GS Industries, Inc. located in Charlotte, North Carolina, the parent corporation of GST Steel Company ("GST"). I have spent a total of almost 40 years in the steel business, in a variety of positions. Prior to joining GS Industries in May, 1998, I spent three years at AK Steel as Vice President of Purchasing and Transportation. Prior to that I spent 35 years with U.S. Steel, the last eight years as director of raw materials, with responsibility for the buying, selling and trading of all raw materials for the corporation. At GS Industries I direct the purchasing and transportation activities of our North American operations, which includes responsibility for electricity and natural gas procurement. I have been involved in the discussions with KCPL regarding power cost to GST, and am aware of the reliability problems experienced by the mill.

- 2. I obtained a BS in Metallurgical Engineering from Carnegie Mellon University in 1957, and an MBA from Duquesne University. I am a registered professional engineer in the Commonwealth of Pennsylvania.
- 3. The purpose of this affidavit is to describe the following:
  - (i) the historical discussions between KCPL and GST relating to power supply issues, including the Hawthorn explosion;
  - (ii) the impact on the cost of power to GST resulting from KCPL's power supply reliability problems; and
  - (iii) the effect on GST's operations of the increases in the cost of power.

### **Background on GST Steel Company**

4. GST's mill is located at 7000 Roberts Street in Kansas City, Missouri, in KCPL's exclusive service territory. GST currently employs over 800 people at its Kansas City facility with a payroll in excess of \$64 million. GST manufactures and markets special steel products worldwide. GST produces grinding balls and rods for the mining industry, as well as carbon wire rods. For the bulk of its manufacturing process, GST utilizes electric arc furnaces which consume extremely large amounts of electric energy, using significantly in excess of half a billion kilowatt-hours of electricity every year, at a cost of approximately \$20 million dollars. Consequently, electricity comprises one of GST's largest variables in terms of production and a significant component of cost, and as such is of critical importance to GST's ability to compete.

### **Discussions With KCPL Related to Power Supply Issues**

- 5. I, and other GST representatives, met personally with KCPL personnel on six (6) separate occasions in 1998 and 1999, to discuss issues related to power supply and power cost.

  Significant aspects of each of these meetings are described in the following paragraphs.
- 6. On July 6, 1998, GST and KCPL representatives met to discuss GST's concerns with respect to the proposed KCPL/Western Resources merger, as well as to gain an understanding of the reasons for the high power costs the mill had been experiencing in the previous months. On June 25, KCPL projected a peak price of \$500/mwh, however, the actual peak price billed to GST went to \$1,833/mwh. GST emphasized that accurate price information was critical to the mill. KCPL promised to begin providing GST with notice via telephone when the hour ahead electric rate is projected to be above \$100/mwh, and to look into providing GST with power costs on a real time basis. KCPL and GST agreed at this meeting to re-establish the Operating Committee meetings on a monthly basis to discuss power supply issues affecting the plant.
- 7. On October 23, 1998, GST and KCPL representatives again met to discuss GST's concerns with the impact the KCPL/Western Resources merger might have on GST's costs, and to continue to explore the reasons for the high power costs at the mill through August and September. KCPL informed GST at that meeting that one reason for the high power costs was an increase in the generating unit forced outage rate from 14% in 1997 to 18% in 1998, when the budgeted level was 10%. An additional cause of the price

increases cited by KCPL was the load growth on the system coupled with the lack of new significant generation constructed on the KCPL system since the mid-1980s.

- 8. On November 6, 1998, GST and KCPL representatives met to again discuss the cost of power experienced by GST. KCPL informed us that the 1998 prices were higher than the target because unspecified "things" were out of line. KCPL representatives also opined at that meeting that the summer of 1999 would be similar to 1998 in terms of power cost.
- 9. On December 16, 1998, KCPL and GST representatives met to discuss electricity reliability problems at the mill, to continue discussions regarding the reasons for the significant increase in power costs in 1998, and to discuss what to expect for 1999 in the way of power costs. At that meeting we discussed the numerous power outages at the mill over the past few months caused by malfunctioning KCPL equipment. KCPL acknowledged that the level of reliability was poor, and attempted to explain the reasons for those reliability problems and assured us they were going to fix the problems. KCPL also assured us that while their forced outage rate had increased in 1997 and 1998, it was projected to go down in 1999.
- 10. On February 24, 1999, KCPL and GST representatives met to discuss the Hawthorn boiler explosion, the impact the loss of the Hawthorn generating unit would have on GST, and the reliability of the delivery of power to the mill. It was at that meeting that GST was informed that it should expect its power bills to be several million dollars or more higher in 1999 than 1998. Among other topics discussed at the February 24, 1999 meeting was the Hawthorn 5 outage that occurred in August of 1998. We were informed

that the August 1998 outage was caused by an explosion that occurred involving a high-pressure welded pipe which KCPL had believed to be a seamless pipe. Because of this mistaken belief, the welded pipe was not included in the preventative maintenance program. In spite of the price increases, the two Hawthorn incidents, and the reliability problems at the mill, the bulk of the meeting consisted of KCPL attempting to justify the manner in which they operate and maintain their facilities.

11. On March 2, 1999 GST and KCPL representatives met to further discuss the ramifications of the Hawthorn 5 boiler explosion and long-term outage. In response to our statement that KCPL owed us a duty to operate its system in a prudent, reliable, and efficient manner, we were told that KCPL had no obligation to supply GST with any particular standard of service if not set forth specifically in the Agreement. We were further informed that KCPL intended to do nothing to protect GST from the cost increases that GST is exposed to as a result of the Hawthorn 5 outage.

#### **GST's Power Supply Costs**

- 12. We are extremely concerned with what we view as a deterioration in the reliability of KCPL, both in terms of the delivery of power to the plant (discussed more fully in the Affidavit of Ronald F. Lewonski), and operation of the generating units on the KCPL system (particularly the Hawthorn outage). Our cost of production suffers from both types of reliability problems.
- 13. GST takes electric service from KCPL pursuant to an Amended and Restated Power Supply Agreement executed on August 12, 1994. GST expected the cost of electricity

esulting from this Agreement to help it stay competitive with its competition and, in
eliance in part on this expectation, GST has invested in excess of \$100 million in plant
mprovements that have gone into service since the date the Agreement was signed.
***. GST
nas been told by KCPL to expect additional, significant cost increases this year as a result
of the loss of the Hawthorn generating unit. (Based on our past experience, we expect the
brunt of those increases to occur in the summer months.) When the shutdowns of the mill
due to reliability problems are taken into account, the financial impact of KCPL's recent
degraded service is compounded.
Our experience in September 1998 is a good example of what happens to us as a result of
KCPL reliability problems. As a result of the steam pipe explosion at Hawthorn 5 in
August 1998, Hawthorn 5 was off-line for the entire month of September. In addition, we
were informed by KCPL that every other unit they operate was out of service at some
point during the month of September (except for Wolf Creek, which is operated by
Western Resources). **

## Impact of Power Cost Increases on GST Operations

15. The steel industry is extremely competitive, and GST competes against both domestic and foreign producers. The United States steel markets have been, and continue to be, under tremendous pricing pressure as a result of high volumes of low-priced imports, which

in many cases have been illegally "dumped" (sold at a price below the cost of production or below the price at which they are sold in the country of manufacture). As a result, GST has experienced severe price cuts for its products. At the same time, GST's cost per ton has been increasing as a result of KCPL's reliability problems and its increasing price of power. If the price increases predicted by KCPL come to fruition, GST will be placed at a significant disadvantage, and may find that it is not economically viable to melt steel in Kansas City. GST's per ton cost of production may greatly exceed the market price for its products. As a result, GST would likely curtail some operations, which could lead to a

layoff of some employees and affect GST's ability to deliver steel products to its customers,

thereby negatively impacting GST's relationship with those customers as well.

Further, the Affiant sayeth not.

Ronald S. Mulhauser

[SEAL]

SWORN TO AND SUBSCRIBED before me this 5<sup>th</sup> day of May, 1999.

Notary Public for the State of North Carolina

County of Mecklenburg

Glenda F. Dowdle

Notary

My Commission Expires: My Com

My Commission Expires Sept. 28, 2000

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# Appendix E

KCPL Press Releases Dated February 17, February 22, February 23, and March 2, 1999



### Kansas City Power & Light Generating Station Explosion

Kansas City, Missouri (February 17, 1999) - This information recaps the explosion that occurred at approximately 12:30 a.m. at Kansas City Power & Light's Hawthorn Generating Station, 8700 Hawthorne Road in Kansas City. The exact cause has not yet been determined. There were no injuries to any of the 12 KCPL or contract employees on site at the time.

The full extent of the damage to the 11-story boiler is not yet known. Generating needs for KCPL customers are being met by other available generating resources.

Hawthorn unit 5, which utilizes the damaged boiler unit, was not on line at the time of the explosion. Hawthorn unit 5 has a 479 megawatt net capacity and is the only coal-fired generating unit at Hawthorn Station. The station began operation in 1956. The unit began commercial operation in 1969.

KCPL and governmental environmental personnel are on site. Readings taken in the area show no threat to public health and fall within the Environmental Protection Agency's clean air standards.

The company continues to evaluate the damage. Updated information will be provided as it becomes available.

Kansas City Power & Light Company is a leading provider of energy and related products and services to a growing and diversified service territory encompassing metropolitan Kansas City and parts of eastern Kansas and western Missouri. KLT Inc. and Home Services Solutions Inc., wholly owned subsidiaries of KCPL, pursue unregulated business ventures nationally, capturing growth opportunities in markets outside the regulated utility business.

Media Contact: Pam Levetzow

Pam Levetzow 816/556-2926

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#### Investigation of Hawthorn Explosion Underway

Kansas City, MO. (February 22, 1999) - Kansas City Power & Light (NYSE: KLT) has assured employees that personnel located at the company's Hawthorn Generating Station will be reassigned to other KCPL work locations.

The explosion that occurred at KCPL's Hawthorn plant on February 17, 1999 destroyed the work areas of most of the plant's 135 employees. It is expected that some employees will be needed at the Hawthorn site to assist with the cleanup and evaluation of the damage.

The cause of the explosion at the station is not yet known. Investigation is underway and the demolition process is expected to begin in the next few weeks. Analysis of the structural integrity at the explosion site will determine the speed with which the investigation can proceed and demolition can begin. Preliminary cleanup began last week in areas of the plant property not directly involved in the explosion. Crews worked from the perimeter of the property and will move toward the center of the damage. Damage to the unit, while extensive, has not therefore been fully evaluated. The investigation and evaluation is expected to take several weeks.

The Company has all risks property coverage insurance and boiler and machinery coverage insurance. The nature and extent of insurance coverage for this loss is being determined. In addition, the Company is evaluating several alternatives regarding the replacement of the power generated at the station for this summer.

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Media Contact: Pam Levetzow

Pam Levetzow 816/556-2926

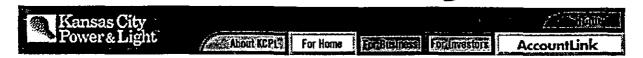
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### **Hawthorn Generating Station Update**

Kansas City, Mo. (February 23, 1999) - Kansas City Power & Light reported that there was a fire this morning at the Hawthorn Generating Station. The fire was confined to a structure known as a "dust collector house," which would normally capture coal dust when the plant is operating. The structure is in the area of the plant that was most directly involved in the explosion that occurred last Wednesday at the station.

The fire department responded promptly. No injuries were involved.

The cause of last week's explosion at the station is not yet known. Investigation is under way and the process of demolishing the boiler damaged in the explosion is expected to begin in the next several weeks. Analysis of the structural integrity at the explosion site will determine the speed with which the investigation can proceed and boiler demolition can begin. These activities are expected to take several weeks.

The Company is evaluating several alternatives regarding the replacement of the power generated at the station for this summer.

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Media Contact: Pam Levetzow 816/556-2926

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### KCPL estimates financial impact of plant explosion; plans for future

Kansas City, Mo. (March 2, 1999) -- Kansas City Power & Light (NYSE: KLT) estimates a net increase in costs of between \$6.5 million and \$11.5 million (before tax) for the year 1999, as a result of the February 17th boiler explosion at the company's 479-megawatt Hawthorn Generating Station's Unit #5. The company's total accredited generating capacity is 3,701 mw.

This estimate is based on increases of approximately \$25 million to \$30 million in fuel and purchased power costs and reduced sales of bulk power, assuming normal weather and operating conditions. KCPL anticipates that the impact of these higher costs will be offset by the following estimated savings:

- \$11.5 million in reduced O&M costs, including normally scheduled maintenance at Hawthorn and rescheduled maintenance outages at other plants
- \$ 5.0 million in insurance coverage for replacement power
- \$ 1.0 million in reduced Hawthorn depreciation
- \$ 1.0 million in rail management savings

These impact estimates are for 1999 only. The company will continue to evaluate any impact on future years.

Though investigation of the cause of the explosion is still under way, preliminary indications are that the damage was caused by an explosion of accumulated gas in the boiler's firebox. The company has insurance coverage for this type of event, with limits of \$300 million. What caused the ignition of the gas is not yet known. The boiler was not operating at the time of the explosion, and there were no injuries.

The company is evaluating several alternatives regarding the replacement of the power generated by Unit #5 and is confident that it can secure sufficient power to meet its customers' energy needs during this summer and beyond. On average, Hawthorn Unit #5 generated approximately 2 million megawatt hours each year. The company plans to make up this lost generation by:

- redirecting approximately 1.1 million mwh of annual bulk power sales for use by KCPL's retail customers
- rescheduling planned maintenance outages at other plants to maximize available
- placing Hawthorn #6, a 142 mw gas-fired combustion turbine, into commercial operation this spring

Utilizing this strategy, the company estimates a remaining energy requirement of approximately 350,000 mwh, which will be obtained through a combination of firm and spot market purchases.

Even prior to the explosion, the company was finalizing contracts to bring on line an additional 294 mw of capacity by the summer of 2000, in addition to Hawthorn 6. The capacity projects involve repowering an existing unit and adding two new combustion turbines. Plans call for these projects to be located at the Hawthorn site. The company also plans to permanently replace the lost capacity at Hawthorn and is exploring size, fuel source and technology alternatives.





The company does not anticipate rate increases as a result of the Hawthorn explosion.

Work began yesterday to dismantle the damaged boiler. The work will occur in two phases, with the initial work focusing on stabilization of the explosion site and removing structures with the greatest potential of shifting or falling. This is expected to take several days. The remaining demolition of the boiler is expected to take several additional weeks.

Media Contact: Pam Levetzow

816-556-2926

Financial Contact:

David Myers 816-556-2312

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#### CERTAIN FORWARD-LOOKING INFORMATION

Statements made in this release which are not based on historical facts are forward-looking and, accordingly, involve risks and uncertainties that could cause actual results to differ materially from those discussed. Any forward-looking statements are intended to be as of the date on which such statement is made. In connection with the safe harbor provisions of the Private Securities Litigation Reform Act of 1995, we are providing a number of important factors that could cause actual results to differ materially from provided forward-looking information. These important factors include:

- weather conditions
- future economic conditions in the regional, national and international markets
- state, federal and foreign regulation and possible additional reductions in regulated electric rates
- financial market conditions, including, but not limited to changes in interest rates
- inflation rates
- increased competition, including, but not limited to, the deregulation of the United States electric utility industry, and the entry of new competitors
- ability to carry out marketing and sales plans
- ability to achieve generation planning goals and the occurrence of unplanned generation outages
- nuclear operations
- ability to enter new markets successfully and capitalize on growth opportunities in nonregulated businesses
- unforeseen events that would prevent correcting internal or external information systems for Year 2000 problems
- adverse changes in applicable laws, regulations or rules governing environmental (including air quality regulations), tax or accounting matters
- the proposed Western Resources Inc. (Western Resources) merger

This list of factors may not be all-inclusive since it is not possible for us to predict all possible factors.

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# Appendix F

SPP Generation Outage Report

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AST REV.	11/16/88					{		
RST QUARTE	R UNIT OUTAG	ES						
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DATEITIME	DATE / TIME	TIME O	FFLINE	סו דואט	UNIT	FOR,OUT	SCH,OUT	REABON FOR OUTAGE
OFF	ON	DAYS	HOURS		NAME	DE-ENEG	HOLD	
/23/98 13:28	1/23/98 20:01	0,27	6.6	70401	LAC-1	Х		PMG WIRE TO GROUND
/31/98 11:53	1/31/98 21:25	0.40	9.5	70402	LAC-2	X		LOW DRUM LEVEL
/16/98 10:31	1/19/98 15:55	4.22	101.4	70401	LAC-1	Х		BOILER LEAKS
/Z2/98 21:19	1/24/88 5:09	1.33	31.8	11203	MON-3		X	RSO
/DD/98 19:39	2/1/98 22:28	2.12	50.8	11203	MON-3		X	RED
		0.00	0.0					
V1/98 12:29	2/3/98 2:18	1.58	37.8	70402	LAC-2	×		BLOWDOWN VALVE
/3/98 18:22	2/4/98 10:53	0.69	18.5	70401	LAC-1	X	1	BO.FEED PUMP TRIP
2/13/98 22:56	2/24/98 5:12	10.26	2/18.3	8805	HAW-5	T	X	INSPECTION
2/14/98 21:21	2/15/98 9:54	0.52	. 12.8	70401	LAC-1	X		F L.D. FAN REPAIR
2/18/98 2:37	2/20/98 19:25	2.70	64.8	70402	LAC-Z	X	1	REHEAT LEAK
2/21/98 5:38	2/21/98 9:04	0.14	3,4	70402	UNC-2	X	<del>                                     </del>	B F.D. FAN
2/24/98 10:18	2/24/98 18:33	0,94	8.3	9605	HAW-5	X	1	TRIPPED ON START UP
2/25/98 23:38	3/3/98 8:18	5.36	128.5	11203	MON-3	1	X	CLEAN BOILER
2/28/98 0:09	3/1/98 1:46	1.07	25.8	70402	LAC-2	X	<del>                                     </del>	BEARING VIBRATION
	1			<del> </del>			<del> </del>	
3/1/98 2:00	3/3/98 12:25	2.43	58.4	70501	IAT	X	<del> </del>	BOILER LEAK
3/3/98 13:35	3/6/98 4:21	2.62	62.8	11203	MON-3	X	<del> </del>	GEN.OIL LEAK
3/4/98 23:04	3/6/98 12:45	1.57	37.7	70501	IAT	X	<del> </del>	BOILER LEAKS
3/5/98 8:26	4/10/98 4:40 .	35.93	882.2	11202	MON-2	X	<u> </u>	8 WEEK OUTAGE
3/6/98 13:20	3/8/98 18:04	0.11	2.7	70501	IAT	X	<del> </del>	HIGH DRUM LEVEL
3/30/98 0:49	4/2/98 8:43	3,33	79.9	70401	LAC-1	1 ×	<del>                                     </del>	BOILER LEAK
4/10/98 6:49	4/10/88 9:27	0.11	2.6	11202	MON-2	1 ×		TRIPPED DURING START-UP
4/11/98 7:50	4/13/98 3:17	1.81	43.5	11203	MON-3	1 × ×	<del> </del>	REHEAT LEAK
4/14/98 22:23	4/17/98 7:29	2,38	67.1	70401	LAC-1	$\frac{\hat{x}}{x}$	<del> </del>	BOILER LEAK
4/17/98 9:52	4/17/88 21:05	0.47	11.2	70401	LAC-1	X	<del> </del>	BEP ORAIN LINE
4/17/98 23:35	4/19/98 19:01	1.81	43,4	11202	MON-2		<del> </del>	REMOVE STOP VALVE SCREENS
4/18/98 1:44	4/30/98 4:12	12.10	290.5	70402	LAC-2	1 ×	1	MAINT, OUTAGE
4/19/98 19:18	4/18/98 22:12	0.12	2.9	11202	MON-2	<del></del>	1	BREAKERS TRIPPED
4/30/98 9:47	4/30/98 15:29	0.24	5.7	70402	LAC-2	<del>  x</del>	1	DRUM LEVEL
4/30/98 17:34	4/30/98 19:08	0,06	1.5	170402	LAC-2	X	<del></del>	COMPUTER
4/30/98 21:12	6/1/95 11:09	0.58	14.0	70402	LAC-2	X	+	COMPUTER
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# Appendix G

Affidavit of Ronald F. Lewonski

### BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the Matter of Hawthorn Generating	)		
Station Unit No. 5 and the Adequacy	)		
of Service Provided by the	)	Case No. EO-99	
Kansas City Power & Light Company	Ś		

Affidavit Of

Ronald F. Lewonski

On Behalf Of

GST Steel Company

May 10, 1999

### BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

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)	Case No. EO-99	
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#### **AFFIDAVIT**

STATE OF MISSOURI COUNTY OF JACKSON § §

PERSONALLY APPEARED before me, Ronald F. Lewonski, who, being first duly sworn, did depose and say as follows:

1. I am the Central Maintenance Manager of GST Steel Company ("GST"). I have been with GST for eight months and have spent a total of six years in the steel business, in a variety of positions. Prior to joining GST, I was the Processing Maintenance Area Manager for Armco Steel in Butler, Pennsylvania and a Maintenance Section Manager for AK Steel in Middleton, Ohio. My responsibilities at GST include a leadership role in the maintenance of the facility, coordinating with the managers of the various plant maintenance groups, and advising the plant managers. I manage and directly supervise approximately 100 repairmen in the central shops. Since joining GST, I have been involved in the discussions with KCPL regarding power reliability and cost, and am intimately aware of the reliability problems experienced by the mill.

- 2. I received a mechanical engineering degree in 1985 from the Virginia Military Institute, and in the same year was commissioned in the United States Navy, where I served until September, 1992. At that time I held the rank of Lieutenant, and currently serve in the U.S. Naval Reserve as a Lt. Commander.
- 3. The purpose of this affidavit is to describe the following:
  - (i) the recent history of Kansas City Power & Light's ("KCPL") power delivery problems affecting GST's operations;
  - (ii) the impacts of these power delivery problems on GST's ability to maintain normal operations; and
  - (iii) meetings and discussions between KCPL and GST relating to power delivery reliability problems.

#### Background on GST Steel Company

- 4. GST's mill is located at 7000 Roberts Street in Kansas City, Missouri in KCPL's exclusive service territory. GST manufactures and markets special steel products worldwide. GST produces grinding balls and rods for the mining industry, as well as carbon wire rods. For the bulk of its manufacturing process, GST utilizes electric arc furnaces which consume extremely large amounts of electric energy, using significantly in excess of half a billion kilowatt-hours of electricity every year, at a cost of millions of dollars.
- 5. From an electrical perspective, the mill is divided into three separate sectors with three separate feeder configurations from KCPL. The "Melt Shop" constitutes one sector

which includes the two EAFs, the ladle furnace, caster, 19" rolling mill, and the ball forming/forging machines. The "Rod Mill" with a reheat furnace constitutes another sector. The "South Plant" is the third sector which includes the administrative building and the central maintenance shops.

### **Power Delivery Reliability Problems**

- 6. During 1998, numerous KCPL power delivery problems have interfered with the scheduled operation of GST's plant and have severely jeopardized GST's ability to compete. I witnessed more reliability-related power outages since my arrival at GST than I have witnessed in all of my six years in the steel business. Since my arrival at GST, I have personal knowledge of numerous instances where KCPL reliability problems disrupted GST operations and have records of other power disruptions. Some of the more notable disruptions include:
  - On January 20, 1998, while working on its transformer #78, KCPL caused a short,
     which in turn caused KCPL transformer #12 to switch, thereby shutting down
     GST's Rod Mill. The impact of this outage was not recorded;
  - ◆ From July 1998 through October 1998, KCPL's transformer #12, which serves GST's Rod Mill, repeatedly failed causing GST to scrap 12 tons of steel and shut down for 264 minutes. Transformer #12 was a used transformer that had been ineffectively rebuilt. KCPL eventually removed Transformer #12 from service and replaced that transformer with another;

- On August 14, 1998, GST suffered a power loss at its Rod Mill causing a 210 minute delay;
- From mid-September 1998 through the beginning of November 1998 there were numerous problems with KCPL's transformer #1A. During this time period, the transformer #1A assembly experienced numerous voltage spikes. GST reported these problems to KCPL, but to my knowledge, no action was taken by KCPL to address the voltage spikes. The neglected voltage spikes culminated in a tap changer failure of transformer #1A. A root cause analysis indicated that internal spring fatigue caused the failure of the tap changer. The ineffective spring likely had been the cause of the voltage spikes. As a result of the tap changer failure, GST's Melt Shop Complex was shut down for several hours. By the time the tap changer repairs were fully completed and transformer #1A went back on line, GST had suffered production delays of 545 minutes;
- ◆ On October 22, 1998, a power fluctuation attributable to KCPL on feeder #5324 caused a voltage fluctuation on feeder #5321, which in turn caused GST's Rod Mill to shut down for 24 minutes;
- ◆ Throughout November 1998 there were numerous power dips at GST's South Plant and Rod Mill, including five separate power dips on November 11, 1998, alone;
- On November 1, 1998, a power dip on feeder #5312 attributable to KCPL caused GST's South Plant to shut down for 30 minutes, and Rod Mill to shut down for 185 minutes.

- On November 13, 1998, a power fluctuation attributable to KCPL occurred with the failure of their underground cable #5316-1 (likely due to deterioration of the cable associated with its age), which caused GST's Rod Mill to scrap 15 tons of steel and shut down for 170 minutes;
- On November 17, 1998 feeder #5314 was grounded while KCPL was repairing its feeder #5316 causing injuries to KCPL personnel. As a result, GST scrapped 19 tons of steel, its Rod Mill was shut down for 180 minutes, and its South Plant was shut down for 300 minutes. In addition, service to the GST Administration building was also disrupted;
- On December 17, 1998, failure of an underground feeder cable led to an under voltage condition at GST's Melt Shop causing equipment damage and the Melt Shop to shut down. The failure caused GST to scrap 320 tons of steel and shut down for 120 minutes;
- On February 6, 1999, a power fluctuation as a result of a KCPL transformer failure at Forest Substation 31 caused GST to scrap 9 tons of steel at its Rod Mill, and caused GST to apply otherwise unnecessary heat treatment to almost 53 tons of steel from its Low Ball Mill. This power fluctuation also resulted in total delays of 514 minutes;
- On April 9, 1999, there was a power fluctuation caused by KCPL, which in turn caused the mill water pumps to lose pressure, thereby causing a mill wreck and a cobble at both lines at the Rod Mill. This incident caused GST to scrap 6 tons of steel and shut down for 49 minutes.

Totaled, reliability-related outages associated with KCPL's power delivery equipment caused GST to scrap in excess of 300 tons of steel and lost production time in excess of 2,000 minutes, resulting in lost revenues of approximately \$1.2 million.

7. Up until recently, KCPL had configured its delivery system such that if Praxair (GST's industrial gas supplier) started its new, large 40,000 HP compressor while GST was running its rolling mill, the Rolling Mill could trip off-line creating the potential for a very dangerous situation, especially if hot steel was in the process of being rolled. Because the hot steel is shaped at high speeds under pressure, a sudden stopping of the rolling process could cause a "cobble" in the Rolling Mill, with hot steel buckling and overrunning the processing line. KCPL's initial method for dealing with this problem in its system design was to place the burden on GST. KCPL asked GST to shut down its Rolling Mill so that Praxair could start up its large compressor. This required GST to remove all material from its rolling mill, allow Praxair to start its compressor, and then GST restart its rolling mill. KCPL failed to properly plan for Praxair's compressor or anticipate the impact of the compressor on its ability to deliver reliable electric service to GST. KCPL's most recent solution has been to switch Praxair to a separate electrical feed utilizing a back-up transformer. The use of the back-up transformer however compromises the reliability to GST. Although KCPL has acknowledged the need for another transformer, the transformer will not be installed until the second half of 1999.

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summer of 1008	GRT lost the fo	allassina amaunte	s of Melt Shop pro	duction	time **

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July 20-21	1,020 minutes*
August 20	760 minutes
August 24	760 minutes
August 31	240 minutes

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**2,780** minutes

(46 hours and 20 minutes)

9. Power delivery reliability problems are continuing. On April 30, 1999, a switch of the 161 kV Main Melt Shop Feeder experienced a ground fault. This eventually burnt the shunt and later a lightning arrestor. This resulted in one of three phases being lost, causing electrical damage within the departments of the North Grinding Media, Melt Shop complex, and the 19" Mill. On May 2, 1999, a voltage fluctuation occurred on the main feeder to the Melt Shop causing a "break-out." A break-out can occur when the movement of liquid metal through a caster is disrupted. During the steel-making process, liquid metal is poured through a multi-strand caster, which continuously moves the metal forward as it is being cooled and solidified. This voltage fluctuation disrupted the cooling of the hot metal in the caster and caused the liquid steel to not solidify and spill onto the floor. GST is still in the process of assessing damages, delay times and total costs of these disruptions.

#### GST Discussions with KCPL Representatives

Total

10. Since I joined GST, there have been numerous meetings of the "Operating Committee," comprised of GST and KCPL personnel on an attempted monthly basis, at which these issues were discussed. In addition, there have been numerous informal communications

<sup>\*</sup> The Rod Mill was also curtailed for 780 minutes during this period.

(such as telephone calls) between GST and KCPL. KCPL was informed of all of these reliability problems, and while some of the problems appear to have been solved or are in the process of being solved, I am concerned that KCPL has not undertaken a sufficient response to eliminate all the problems and question the adequacy of their preventive maintenance program.

Further, the Affiant sayeth not.

Monald Lewonski
Ronald F. Lewonski

SWORN TO AND SUBSCRIBED before me this 10 day of May, 1999.

Notary Public for the State of Missouri

My Commission Expires: May 20, 2001

[SEAL]

Dian McClymond Notary Public • Notary Seal State of Missouri • Jackson County My Commission Expires May 20, 2001 .

## Appendix H

Letter from KCPL Dated December 15, 1998



December 15, 1998

Mr. Frank Branca

Re: GST Outages

GST has experienced thirteen outages this year resulting from a combination of substation equipment failures at Blue Valley Sub and distribution equipment on circuits feed from Blue Valley Sub. This level of reliability is poor, and we have taken actions to improve it. Eight of the outages were due to cable faults, four were due to #12 transformer, and one was due to a failure of a new 161 kV breaker.

First, we have moved the normal feed to all other customers off #1 and #2 buses. GST will be the only customer normally fed from these buses. There were four faults this year on cables feeding PraxAir, which also caused outages to GST since PraxAir was being fed from #1 bus. During normal operation this action will eliminate the effects on GST caused by other customers. Second, eight of the GST outages were due to cable faults. Two of the faults were on cables owned by GST. There are a couple of thoughts on the reasons for the increased number of cable faults we have experienced. One is that we may have increased cable duct heating when the new PraxAir cable and load were added. This has been addressed and field changes made to reduce the cable duct temperatures. With these changes, we now feel this possible condition has been alleviated. A couple of the cable failures and one averted failure may have been caused by mechanical fatigue of the lead sheath on the cable due to movement of the Blue River bridge. Underground will visually inspect all of the cables in the four manholes on the bridge and repair or replace any cable with a problem.

Third, we are installing an additional transformer to normally supply the 16,000-hp motor at PraxAir. With this transformer in service, we will not have to isolate the bus before PraxAir can start this motor. Likewise, GST will not be asked to hold up production while PraxAir is starting this motor. We expect to have this transformer in service by June of next year.

One outage was caused by a failure of a new 161 kV breaker at Blue Valley. The breaker was replaced. This breaker was installed as part of a program to upgrade the 161 kV breakers.

Four of the outages were due to the problems we had with #12 transformer supplying #1 and #2 buses. We had two transformers fail in the #12 transformer position. We believe the failures of these two transformers were not related but due to the specific transformer problems. Our monitoring equipment of #1 bus power quality has indicated 30 amps of DC offset in the neutral current. This was just a snapshot, and we are investigating this further.

We believe with the actions taken, the reliability of GST load fed from Blue Valley should improve significantly.

G. W. Burrows

cc: Mr. V. J. Skripsky Mr. M. E. Bier

GWB:Isc

### Option 1: Purchase a Calendar '99 Forward

At current OTC Market Prices, as of 12/14/98, the ATC price would ~\$27.50 /MWh (2.7 cents / kWh) or \$240,900 / MW.

#### Pros

- 1. Year round insurance against price spikes.
- 2. Firm price regardless of market volatility.

#### Cons

- 1. Significant cash commitment.
- 2. Exposure to opportunity costs (regret) if prices drop.
- 3. Reduced operating flexibility without some exposure to the market

## Option 2: Purchase a \$100 strike Summer '99 Daily Call Option

At recent OTC Market Prices at Cinergy Hub, as of 12/14/98, the price would be about \$60.00 / MWh during July-August (688 hrs) or \$41,280 / MW. Spread over all hours through the year, this would be a 0.5 cents / kWh premium at a 100% LF, or 0.7 cents / kWh at GST average LF of 64%.

#### Pros

- 1. Insurance against July-August price spikes.
- 2. Fixed Price for price insurance, regardless of market volatility.
- 3. Lower cost than year round protection.
- 4. Able to benefit if prices drop.

#### Cons

- 1. Reduced but still significant cash commitment.
- 2. Exposure to price spikes in other months.
- 3. GST would have to commit to exercise option one business day in advance, probably by 9:00 a.m.
- 4. Energy would be delivered in 16 hour blocks, 6:00 a.m. to 10:00 p.m.
- 5. There is a "basis risk" between Hub financial prices and KCPL costs, i.e., the price difference between Hub prices and KCPL changes over time.

## Option 3: Purchase (1) sell (2) and shut down if prices spike

. At prices listed above, the year round cost would be reduced to 2.2 cents/kWh. GST has an embedded option, the ability to shut down, that can be sold to lower the cost of the forward. This imposes a requirement that GST shut down when the day-ahead price is greater than \$100. The cost of this option is \$199,620 / MW.

#### Pros

- 1. Protection from price spikes in all months except July-August.
- 2. Lowers the cost of balance of year protection.
- 3. Able to repurchase option if prices drop.
- 4. GST would be given notice of required shutdown one day in advance, probably by 9:00 a.m.

#### Cons

- 1. Operational exposure to July-August price spikes.
- 2. Reduced but still significant cash commitment.

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# Appendix I

Letter from KCPL Dated February 25, 1999

JOHN J. DESTEFANO SINION VICE PRESIDENT BUSINESS DEVELOPMENT February 25, 1999

Mr. Mark G, Essig President & Chief Executive Officer 1901 Roxborough Road Suite 200 Charlotte, North Carollna 28211

RE: Kansas City GST Steel Facility

Dear Mr. Essig:

This letter is intended to follow up our meeting this week. At that meeting we committed to you that we would provide you with information concerning steps Kansas City Power & Light Company is taking to improve electric service to the your Kansas City facility. This letter will outline those steps.

- 1. In order to reduce the possibility of voltage sags Interrupting production in the rod mill, KCPL has removed all other customers from the #12 transformer which serves the rod mill.
- 2. In order to maintain this isolation of service for the rod mill in the #12 transformer even in times when emergency backup is needed, we are purchasing and will be installing an additional transformer at the substation. This work should be completed by the fall of 1999.
- 3. In order to improve backup service to the melt shop in the event of a voltage fluctuation, we are installing additional relay instrumentation to reduce the likelihood of lost production. This work should be completed in the spring of 1999.
- 4. We have worked with GST plant personnel to decrease communication problems between personnel of the two companies by reestablishing the joint GST-KCPL Operating Committee.
- We are assisting GST in evaluating your own high voltage underground electrical system. Much of this system is 40 plus years old and is a major concern of GST maintenance personnel.
- 6. KCPL is assisting GST to determine which production interruptions are internally generated.

Through all of the listed ways KCPL is upgrading the service to GST, assisting GST in evaluating your own problems, and in solving those problems. To this end KCPL is investing in excess of \$1 million and has committed large numbers of staff hours. We believe that this joint effort will prove beneficial to GST.

If you need additional information regarding the steps being taken to improve electric service to your Kansas City facility, please feel free to contact me.

Sincerely,

John J. DeStefano

Senior Vice President, Business Development

JJD:gcb