BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

PCC AIRFOILS, LLC,	)	
	)	
Complainant,	)	
	)	**Case No. 16-2213-EL-CSS**
v.	)	
	)	
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY,	)	
	)	
Respondent.	)	
	)	

DIRECT TESTIMONY OF DEAN E. PHILIPS, P.E. ON BEHALF OF THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

INTRODUCTION

Q. PLEASE INTRODUCE YOURSELF.

A. My name is Dean E. Philips. My business address is 76 South Main Street, Akron, OH 44308. I am the Manager of Distribution Planning and Protection for FirstEnergy Service Company.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

A. I have a Bachelor of Science in Electrical Engineering ("BSEE") from The University of Akron. I am also a Registered Professional Engineer in the State of Ohio. I have been working as an engineer for FirstEnergy Service Company ("FirstEnergy") and its affiliates for over 35 years. My work experience is outlined in Attachment DEP-1.

Q. WHAT ARE YOUR CURRENT JOB RESPONSIBILITIES?

A. I manage the distribution planning and protection group for all of FirstEnergy Corp.'s electric distribution utilities which in Ohio includes: The Cleveland Electric Illuminating Company ("CEI" or "Company"), Ohio Edison Company and The Toledo Edison Company. This group serves as a technical resource for special projects and provides regional and corporate technical support with regard to a number of areas including: distribution system planning, protection and reliability; distribution capital budget preparation; distributed generation interconnection; distribution automation; power quality; and National Electrical Safety Code ("NESC") and National Electric Code ("NEC") interpretations and issues. I have also served as FirstEnergy's program council representative for Electric Power Research Institute's ("EPRI's") Power Quality, Distribution, Distributed Generation and Grid Resiliency Programs.

I have been in my current position at FirstEnergy, as Manager of Distribution Planning and Protection, since 2011.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CASE?

A. The purpose of my testimony is to describe the factors CEI considers in choosing service voltage for a customer, to describe CEI's 36 kV sub-transmission system, and to provide the rationale for CEI's response to the request of PCC Airfoils, LLC ("PCC Airfoils") to switch service from the 13.2 kV distribution system to the 36kV sub-transmission system.

Q. WHAT DID YOU REVIEW TO PREPARE YOUR TESTIMONY IN THIS CASE?

A. I reviewed the Complaint, discovery responses from PCC Airfoils, outage history for PCC Airfoils' premises, and correspondence between PCC Airfoils and CEI. I also reviewed PCC Airfoils' request to be served from the 36 kV sub-transmission system under the General Service – Sub-transmission (Rate GSU) tariff with CEI's customer support team and regional planning and protection engineers.

RATE SCHEDULES AND DELIVERY VOLTAGE

Q. IN YOUR ROLE AS A MANAGER IN THE DISTRIBUTION PLANNING AND PROTECTION DEPARTMENT, ARE YOU FAMILIAR WITH THE DIFFERENT DELIVERY VOLTAGES AND RATE SCHEDULES OFFERED BY CEI?

A. Yes.

Q. WHAT ARE THE DIFFERENT RATE SCHEDULES?

A. For non-residential customers, CEI's Commission approved tariffs include four rate schedules, which are based on delivery voltage:

- General Service – Secondary (Rate GS): available to general service installations requiring secondary service as defined in the Company's Electric Service Regulations;
- General Service – Primary (Rate GP): available to general service installations requiring primary service as defined in the Company's Electric Service Regulations;
- General Service – Sub-transmission (Rate GSU): available to general service installations requiring sub-transmission service as defined in the Company's Electric Service Regulations; and
- General Service – Transmission (Rate GT): available to general service installations requiring transmission service as defined in the Company's Electric Service Regulations.

Each rate schedule has associated delivery voltages outlined in the Company's tariff. True and accurate copies of the aforementioned rate schedules are attached as Attachment DEP-2. PCC Airfoils is currently served under Rate GS and has requested sub-transmission service under Rate GSU. In the alternative, PCC Airfoils has requested primary service under Rate GP while retaining application of the Business Distribution Credit Rider ("Rider BDC"). As discussed in the Direct Testimony of Peter Blazunas, PCC Airfoils is eligible to take service under Rate GP while retaining application of Rider BDC if certain conditions in the tariff are met.

Q. WHO CHOOSES WHICH DELIVERY VOLTAGE A CUSTOMER WILL RECEIVE WHEN ESTABLISHING SERVICE?

A. CEI does, pursuant to its Commission approved tariffs. As I stated above, each rate schedule has a certain delivery voltage. As indicated in CEI's Electric Service Regulations, Section IV (C), "Delivery voltage will be specified by the Company and will be based upon the availability of lines in the vicinity of the customer's premises and commensurate with the size of the customer's load." A true and accurate copy of the applicable section is attached as Attachment DEP-3. Moreover, the Rate GS, Rate GP, Rate GSU and Rate GT tariffs all indicate that "[c]hoice of voltage shall be at the option of the Company."

Q. HOW DOES CEI CHOOSE THE APPROPRIATE SERVICE VOLTAGE?

A. In determining the appropriate delivery voltage, the Company evaluates each request on a case-by-case basis. The Company seeks to balance several factors:

- Load Characteristics and Power Requirements: A customer's load and power requirements may be beyond the levels that can be served from a secondary service voltage, which may require the Company to serve those customers at a primary voltage level or even a sub-transmission or transmission voltage level if the primary distribution system is also inadequate. In these cases, the customer is responsible for the costs and liability of operating its own transformation and electrical system connected at a higher voltage.
- Power Quality: A customer's load characteristics may necessitate that they be moved to a higher-voltage system where they are less likely to cause objectionable power quality impacts, such as flicker, to other customers.

- Impact to Reliability: As discussed further below, adding customers to the sub-transmission and transmission systems is generally avoided due to the importance of providing reliable service to other customers.
- System Expansion: The Company evaluates whether the existing facilities, voltages and capacities in the area are adequate to serve the customer.
- Impact to Operations: The sub-transmission and transmission systems are complex systems, often with multiple sources. Additionally, these systems are operated at voltages that may not be safely worked while energized. This necessitates complex and time consuming switching operations to perform line work and to restore the system to its normal operating condition after work is complete.

Based on these factors, the majority of CEI's non-residential customers are served at secondary voltage. In general, to protect system integrity and the reliability of service to all customers, the Company will recommend service from the lowest voltage level available to the site that meets the customer's needs, unless there is an engineering reason requiring connection to a higher voltage circuit. I will discuss these factors with respect to PCC Airfoils below.

Q. FROM AN ENGINEERING AND PLANNING PERSPECTIVE, WHY IS IT VITAL THAT THE COMPANY CHOOSE THE DELIVERY VOLTAGE FOR EACH CUSTOMER?

A. As I mentioned, in order to provide adequate, reliable and safe electric service to its customers, the Company must have the discretion to choose the appropriate delivery voltage for each customer. Adding customers to the sub-transmission and transmission systems is generally avoided because the additional facilities (poles, wires, transformers)

increase the exposure of these systems. This increased exposure results in decreased reliability to the many customers ultimately served by these systems.

CEI'S 36 kV SYSTEM AND SERVICE TO PCC AIRFOILS

Q. **DESCRIBE CEI'S 36 kV SUB-TRANSMISSION SYSTEM.**

A. CEI's 36 kV sub-transmission system(s) are found throughout the bulk of the CEI service territory with the exception of downtown Cleveland and southwest Cuyahoga County. This system is typically a dual-circuit system. This means that the circuit pair is installed on a dual-circuit wood-pole line allowing for planned and emergency maintenance on these facilities. This is necessary because there must be an appropriate switching configuration at each load point, or connection to the circuit pair, to allow the load to be served from either of these two circuits. CEI's 36 kV sub-transmission system is critical to the operation of the entire distribution system.

Q. WHY IS THE 36 kV SUB-TRANSMISSION SYSTEM SO IMPORTANT?

A. The Company's transmission and sub-transmission circuits provide a critical backbone function necessary to deliver reliable service to almost all distribution customers. A section of the sub-transmission system can serve a dozen or more distribution substations, each serving two to eight distribution circuits, and ultimately tens of thousands of customers. Because the sub-transmission system impacts the reliability of so many customers, the Company limits the extent and exposure of this system in order to maximize reliability for all customers. Accordingly, the Company exercises appropriate caution when it evaluates any customer's request to connect to the sub-transmission system, especially requests made without a justifiable engineering reason. The evaluation criteria outlined above appropriately considers the integrated nature of the transmission, sub-transmission and

distribution systems and the corresponding effect connections to these systems have on all customers.

Q. **DESCRIBE THE CONFIGURATION OF PCC AIRFOILS' ELECTRIC SERVICE.**

A. PCC Airfoils is a General Service-Secondary customer receiving service under Rate GS. PCC Airfoils' electric service, at 29501 Clayton Ave, is comprised of four general-service secondary (GS) accounts. Three accounts are served from CEI facilities along Rockefeller road (south-west of property), as follows: two three-phase services at 480-volt delta from two separate CEI-owned mat-mounted 1500 kVA transformers (one transformer for each service); and one single-phase service at 120/240 volts from a CEI-owned 167 kVA mat-mounted transformer. The remaining account is a three-phase service served at 480-volt delta from a CEI owned 1500 kVA pad-mounted transformer located to the north-west of the property. All four transformers are fed from the Company's L-2-LI-G 13.2/7.62 kV distribution circuit.

Q. ARE THERE 36 kV FACILITIES WITH ADEQUATE CAPACITY ADJACENT TO PCC AIRFOILS' PREMISES?

A. Yes. The 36kV facilities with adequate capacity located adjacent to PCC Airfoils' premises are the R-16-LY-G and R-17-LY-G circuits.

Q. IS THE FACT THAT THERE ARE 36kV FACILITIES WITH ADEQUATE CAPACITY ADJACENT TO PCC AIRFOILS' PREMISES DETERMINATIVE WITH RESPECT TO PCC AIRFOILS' REQUEST?

A. No. As discussed above, the choice of voltage is at the option of the Company. Due to the importance of the sub-transmission system, the Company must exercise appropriate

caution and evaluate the request in light of the factors outlined above, even if facilities with adequate capacity adjacent to PCC Airfoils' premises are already present.

Q. IS THE FACT THAT THERE ARE ALREADY CUSTOMERS ON CEI'S SUB-TRANSMISSION SYSTEM DETERMINATIVE WITH RESPECT TO PCC AIRFOILS'S REQUEST?

A. No. The number of customers on CEI's sub-transmission system is not relevant to PCC Airfoils' request. The reasons a customer may or may not be served from the sub-transmission system can vary depending on the facts and circumstances at the time the customer's delivery voltage was determined by CEI. As indicated above, each request is evaluated on a case-by-case basis and is dependent on the facts and circumstances at the time the request is made.

PCC AIRFOILS' REQUEST

Q. DID PCC AIRFOILS GIVE ANY REASON FOR WANTING TO BE SWITCHED FROM RATE GS TO RATE GSU?

A. Yes. From reviewing correspondence and PCC Airfoils' discovery responses, it appears the sole driver for the request was economic reasons.

Q. WHAT DID CEI DO UPON RECEIVING THE REQUEST FROM PCC AIRFOILS?

A. CEI engineers reviewed the request and determined that there was no technical, engineering, or reliability reasons to switch PCC Airfoils' delivery voltage from the secondary to the sub-transmission system.

Q. WHAT DETERMINATION, IF ANY, WAS MADE BY CEI REGARDING PCC AIRFOILS' REQUEST FOR SUB-TRANSMISSION SERVICE?

A. CEI determined that it was unnecessary to switch PCC Airfoils' delivery voltage to sub-transmission service as adequate capacity exists on the distribution system currently serving PCC Airfoils under Rate GS. Regarding the factors described above, PCC Airfoils was not increasing its load and its needs for power and quality continued to be sufficiently met by its current service, as it has been for years. CEI determined that there was no engineering reason to change PCC Airfoils' delivery voltage to the sub-transmission system as such a change would unnecessarily add complexity and exposure to the 36 kV sub-transmission system, potentially degrading the service reliability to other customers as I discussed above.

Q. WAS THIS DECISION COMMUNICATED TO PCC AIRFOILS?

A. Yes. Company records indicate that on August 17, 2016, Jennie Haldi, Account Manager, CEI, communicated with Al Berger, Mike Capek (Facilities Manager, PCC Airfoils) and others via e-mail. The e-mail stated that "after consulting with our Planning Engineers it was determined that the existing load at PCC Airfoils, 29501 Clayton Ave, is adequately served from the distribution circuit and a transfer to the sub-transmission circuit is not warranted." Ms. Haldi did advise the customer that it has the option to switch to Rate GP and provided the customer with specifications and requirements for the customer to make such a switch.

CONCLUSION

Q. IN YOUR OPINION, WAS CEI REASONABLE IN ITS RESPONSE TO PCC AIRFOILS' REQUEST TO SWITCH IT SERVICE FROM GENERAL SERVICE-SECONDARY TO SUB-TRANSMISSION?

A. Yes. As I discussed in this testimony, the Company made prudent choices and recommendations with regard to this customer's request. The Company's response was in accordance with the Company's Commission approved tariffs. The customer's current service is more than adequate to serve the customer's existing load and there is no proposed load increase that would cause this situation to change. Further, the switch to sub-transmission service would increase the complexity and exposure of the 36 kV system, contributing to a reduction in sub-transmission system reliability, and ultimately a reduction in reliability to the many distribution customers also served by this system.

The Company also provided PCC Airfoils with the option to continue taking service from its current circuit under Rate GP. This alternative would not increase the complexity and exposure of the 36 kV sub-transmission system.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes; however, I reserve my right to supplement my testimony.

76 South Main Street
Akron, Ohio 44308

Dean E. Philips, P.E.

BSEE from the University of Akron, 1982.

Professional Engineer License, State of Ohio, September 1986.

Summary

Dean has been highly involved in all aspects of distribution engineering throughout the bulk of his career with Ohio Edison Company, The Cleveland Electric Illuminating Company, and FirstEnergy Service Company. Assignments have included: Distribution Practices; Distribution Standards, Specifications, and Materials; supervising field engineering; Regulatory Reporting; and Distribution Planning and Protection.

Dean is currently the FirstEnergy Service Company Manager of Distribution Planning and Protection with oversight over distribution planning, protection, distributed generation interconnections, power quality, automation, conservation voltage reduction; personal protective grounding assessments; and arc-flash hazard assessments.

Work History

FirstEnergy Service Company
Energy Delivery Department, Distribution Planning and Protection
Manager, Distribution Planning and Protection — April 10, 2011 - Present

Major responsibilities include the management of the Company's Distribution Planning and Protection Group and direct participation on various high performance teams. This group serves as a technical resource for special projects and provides regional and corporate technical support with regard to a number of areas, including: distribution capital budget administration, distribution system planning, distribution protection, and distribution reliability; distributed generation interconnection; distribution automation; distribution system var support; interconnection of large customers; power quality; stray and contact voltage; engineering software; National Electrical Safety Code; and National Electrical Code interpretations and issues. Also, served as the Company program council representative for EPRI's Power Quality, Distribution, Distributed Generation, and Grid Resiliency Programs.

FirstEnergy Service Company
Energy Delivery Department, Distribution Planning and Protection
Supervisor, Distribution Protection and Power Quality — Jan 6, 2008 – April 10, 2011

Major responsibilities included serving as a technical resource for a number of special projects and providing regional and corporate technical support with regard to a number of areas, including distribution system protection and reliability, distribution automation, power quality, stray voltage, engineering software, National Electrical Safety Code and National Electrical Code issues. Supervised the FirstEnergy team responsible for the distributed generation interconnection application process. Also, served as the Company program council representative for EPRI's Power Quality Program.

FirstEnergy Service Company
Energy Delivery Department, Distribution Planning and Protection
Senior Engineer — Sept 30, 2007 – Jan 5, 2008

Major responsibilities included serving as a technical resource for a number of special projects and providing regional and corporate technical support with regard to a number of areas, including power quality, stray voltage, engineering software, National Electrical Safety Code and National Electrical Code issues. Also, served as the Company program council representative for EPRI's Power Quality Council.

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FirstEnergy Service Company
Energy Delivery Department, Regulatory Reporting
Senior Engineer **Mar 20, 2005 – Sept 29, 2007**

Major responsibilities included the gathering and submitting of data and information in response to public commission data requests, reporting outage situations to the commissions, and assisting in the coordination of storm response. Other responsibilities included serving as a technical resource for a number of special projects and providing regional and corporate technical support with regard to a number of areas, including electrical code issues, power quality, reliability improvement reporting and plan development, and stray voltage.

FirstEnergy Service Company
IT Department, Business Unit Support - EMS Support
IT/Consultant **Dec 26, 2004 – Mar 19, 2005**

Major responsibility was system integration and support for the installation of a new Areva (Alstom) / ESCA Energy Management System (EMS), including focuses on system builds, source code management, database manipulation, ICCP coordination, technical support and communications support, Front-End Processors, Network Configuration, and system security and reliability. Responsibilities also included some ongoing support of an existing GEHarris EMS, being replaced.

FirstEnergy Service Company
IT Department, Business Unit Support - EMS Support
Business Systems Manager **Feb 4, 2002 –Dec 25, 2004**

Major responsibilities included: Managing and performing production support of the existing GEHarris Transmission/Distribution Energy Management System (see below). Coordination and support with Altsom/ESCA on an EMS replacement/upgrade project.

ATSI
Energy Management System (EMS) Support
(Adv.) Engineer **Oct 2000 – Feb 2002**

Major Responsibilities included: Managing and performing production support of the Transmission & Distribution EMS System, coordinating support with the system vendor and project support for the EMS replacement/upgrade project. This support included: implementing upgrades, enhancements, and changes to the system per the Customer's (Dispatching) request; recommending, justifying, & planning system enhancements & upgrades to meet the customer's expectations for system reliability & performance; Unix system & console hardware; operating systems, EMS software & configurations; and network infrastructure (routers, switches, firewalls, & VPN connections) associated with the EMS system and real-time data communications with external entities.

Ohio Edison Company & The Cleveland Electric Illuminating Company
Eastern Region Engineering Section
(Adv.) Engineer **Sept 1996 – Oct 2000**

Responsibilities included directing and supervising the new business and project engineering groups for the Eastern Region of FirstEnergy. This region encompasses approximately 2500 square miles, and includes the following major Ohio municipalities: Alliance, Ashtabula, Conneaut, Salem, Warren, and Youngstown and two Operating Companies - Ohio Edison and The Cleveland Electric Illuminating Company. Additional responsibilities included: managing the Region's distribution transformer stock and purchases; identifying and implementing cost savings opportunities in the new business process; interpreting Ohio Edison Company's and The Cleveland Electric Illuminating Company's filed rates to assure Regional compliance; resolving territorial boundary and PUCO complaints; coordinating & dispatching hazard responders during major storms; and training employees.

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Ohio Edison Company
Distribution Standards Section
Distribution Design Engineer **Sept 1986 – Sept 1996**

Responsibilities included the specification, review, approval, and support of distribution line material for purchase and use by Ohio Edison Company, in accordance with corporate operating and construction philosophies, Company and union safety requirements, and Company and industry standards and codes. Support responsibilities included preparing and presenting training and informational material to Division Engineering and Line personnel. Major emphasis in the following products: distribution-line transformers, including single-phase pole-type, single-phase pad-mounted and three-phase pad-mounted units; wire and cable; URD splices, terminations, 200 ampere load-break connections, and 600 ampere dead-break connections; compression connectors; distribution switchgear; sectionalizers; reclosers; automated transfer switches; cutouts and fusing; and arresters. I also served as the Section computer support resource and liaison.

Ohio Edison Company
Distribution Practices Department
Distribution Practices Engineer A **Dec 1984 – Sept 1986**

Established and revised distribution operating practices and procedures, both as formal documents and as informal recommendations; coordinated the preparation, reporting, and monitoring of the distribution lines portion of the corporate construction budget and construction schedule; investigated neutral-to-earth voltage complaints; served as department computer support and liaison; coordinated Company construction activities associated with federal, state and local highway projects; and served as the Company O.E.U.I. Highway Subcommittee representative.

Ohio Edison Company
Distribution Practices Department
Distribution Practices Engineer B **June 1982 - Dec 1984**

Functioned as an engineering resource person for the operating divisions. Duties included: Establishing and revising distribution operating practices and procedures within Company & industry standards, practices & procedures as formal documents & as informal recommendations; coordinating division personal computer use; assisting divisions in the investigation & resolution of customer Neutral-to-Earth voltage complaints; and acting as a liaison between the division engineering sections and the General Office.

Ohio Edison Company
Co-op Engineer **Jan 1980 – Aug 1981 (various times)**

Thirty-six weeks of co-op experience in Ohio Edison Company's Marion Division, Transmission and Distribution Department, Engineering Section. Prepared distribution line work orders, performed load transfer calculations, located underground cables and secondary cable faults, and maintained various operating maps and records.

Eighteen weeks of experience in Ohio Edison Company's Systems Operations Department, Telecommunications Section. Prepared various microwave and telephone equipment rack drawings and interconnect tables, recommended method and frequencies for tone-encoded squelch for two-way FM truck radios, calculated microwave path losses and two-way radio coverage.

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College, Summer, and Part-time Work Experience **various**

College and summer work experience, other than co-op experience, included; dairy farm hired hand, new home construction and remodeling, drafting, college power lab assistant, security guard, retail sales, and computer consultant.

GENERAL SERVICE - SECONDARY (RATE "GS")

AVAILABILITY:

Available to general service installations requiring Secondary Service. Secondary Service is defined in the Company's Electric Service Regulations. Choice of voltage shall be at the option of the Company.

SERVICE:

All service under this rate schedule will be served through one meter for each installation.

RATE:

All charges under this rate schedule shall be calculated as described below and charged on a monthly basis.

Distribution Charges:

Service Charge:	$7.00
Capacity Charge:	
Up to 5 kW of billing demand	$13.6800
For each kW over 5 kW of billing demand	$7.4790
Reactive Demand Charge applicable to three phase customers only	
For each rkVA of reactive billing demand	$0.36

BILLING DEMAND:

The billing demand for the month shall be the greatest of:

1. Measured Demand, being the highest thirty (30) minute integrated kW
2. 5.0 kW
3. The Contract Demand

Measured Demand shall be estimated for all customers not having a demand meter and using over 1,000 kWh per month by applying a factor of 200 by the following formula: Measured Demand = kWh / 200.

REACTIVE BILLING DEMAND:

For installations metered with reactive energy metering, the reactive billing demand in rkVA for the month shall be determined by multiplying the Measured Demand by the ratio of the measured lagging reactive kilovoltampere hours to the measured kilowatthours by the following formula: rkVA = Measured Demand X (measured lagging reactive kilovoltampere hours ÷ measured kilowatthours). For all other installations, the reactive billing demand shall be the integrated reactive demand occurring coincident with the Measured Demand.

GENERAL SERVICE - SECONDARY (RATE "GS")

CUSTOMER TARIFF OPTION:

A customer qualifying for service under Rate GS may take distribution service under the terms and conditions of Rate GSU (including the Transformer Charge) if the transformer that directly serves such customer is: 1) located in the immediate vicinity; 2) is owned by the Company; and 3) has been directly fed by a Subtransmission voltage line since May 8, 2007.

APPLICABLE RIDERS:

The charges included with the applicable riders as designated on the Summary Rider, Tariff Sheet 80 shall be added to the Rates and charges set forth above.

ADJUSTMENT FOR PRIMARY METERING:

Where a transformer installation (regardless of ownership) is utilized solely to furnish service to a single customer, the Company may meter the service on the primary side of the transformers, and in such case all the demand and energy registrations shall each be reduced 2%.

SPECIAL METERS:

Time-Of-Day and Interval Metering is available from the Company. Charges for such service are specified in the Miscellaneous Charges, Tariff Sheet 75.

UNMETERED SERVICE:

Unmetered service is available to customers with loads of constant wattage such that the monthly use may be calculated accurately and where the Company and the customer agree to unmetered service. The Billing Load shall be the connected load in kilowatts. The monthly billing kilowatt-hours shall be the product of Hours of Use times connected load. Hours of Use shall be 730 hours for continuous operation mode and 350 hours for all other operation modes.

The customer shall notify the Company of the initial connected load and operation mode and shall provide advance notice of each subsequent change in such load or operation mode. The Company may make an inspection of the customer's equipment at any time to verify connected loads and operation mode. In the event of the customer's failure to notify the Company of an increase in load, the Company reserves the right to refuse to provide unmetered service at the delivery point thereafter and adjust prior billing amounts accordingly to reflect the increases in load.

DUPLICATE CIRCUIT SERVICE:

When service is furnished to provide redundancy to the Company's main service as requested by the customer, a contract demand shall be established by mutual agreement and shall be specified in the service contract. Such installations shall be considered a Premium Installation and shall be a separate account from the customer's main service.

GENERAL SERVICE - SECONDARY (RATE "GS")

ELECTRIC SERVICE REGULATIONS:

The Company's Electric Service Regulations shall apply to the installation and use of electric service.

CONTRACT:

Electric service hereunder shall be furnished in accordance with a written contract, at the Company's discretion, which by its term shall be in full force and effect for a minimum period of one year and shall continue in force thereafter from year to year unless either party shall give to the other not less than 60 days notice in writing prior to the expiration date of any said yearly periods that the contract shall be terminated at the expiration date of said yearly period. When a contract is terminated in the manner provided herein, the service will be discontinued.

The Contract Demand shall be specified in the contract for electric service of customers establishing service after April 30, 2009 and of customers requiring or requesting a significant change in service. The Contract Demand shall be 60% of the customer's expected, typical monthly peak load. Customers with a Contract Demand on April 30, 2009 will remain at that existing Contract Demand level, until such time as they reestablish service or request or require a significant change in service. The Contract Demand shall be reevaluated based on actual usage upon customer request, no more than once per 12 month period.

If the Customer's capacity or service requirements increase, the Company, at its sole and exclusive judgement, may at any time require the Customer to enter into a new contract for electric service.

GENERAL SERVICE - PRIMARY (RATE "GP")

AVAILABILITY:

Available to general service installations requiring Primary Service. Primary Service is defined in the Company's Electric Service Regulations. Choice of voltage shall be at the option of the Company.

SERVICE:

All service under this rate schedule will be served through one meter for each installation.

The customer will be responsible for all transforming, controlling, regulating and protective equipment and its operation and maintenance.

RATE:

All charges under this rate schedule shall be applied as described below and charged on a monthly basis.

Distribution Charges:

Service Charge:	$150.00
Capacity Charge:	
For each kW of billing demand	$2.4050
Reactive Demand Charge applicable to three phase customers only	
For each rkVA of reactive billing demand	$0.36

BILLING DEMAND:

The billing demand for the month shall be the greatest of:

1. Measured Demand, being the highest thirty (30) minute integrated kW
2. 30.0 kW
3. The Contract Demand

REACTIVE BILLING DEMAND:

For installations metered with reactive energy metering, the reactive billing demand in rkVA for the month shall be determined by multiplying the Measured Demand by the ratio of the measured lagging reactive kilovoltampere hours to the measured kilowatthours by the following formula: rkVA = Measured Demand X (measured lagging reactive kilovoltampere hours ÷ measured kilowatthours). For all other installations, the reactive billing demand shall be the integrated reactive demand occurring coincident with the Measured Demand.

GENERAL SERVICE - PRIMARY (RATE "GP")

CUSTOMER TARIFF OPTION:

A customer qualifying for service under Rate GP may take distribution service under the terms and conditions of Rate GSU (including the Transformer Charge) if the transformer that directly serves such customer is: 1) located in the immediate vicinity; 2) is owned by the Company; and 3) has been directly fed by a Subtransmission voltage line since May 8, 2007.

A customer qualifying for service under Rate GP may take distribution service under the terms and conditions of Rate GT (including the Transformer Charge) if the transformer that directly serves such customer is: 1) located in the immediate vicinity; 2) is owned by the Company; and 3) has been directly fed by a Transmission voltage line since May 8, 2007.

APPLICABLE RIDERS:

The charges included with the applicable riders as designated on the Summary Rider, Tariff Sheet 80 shall be added to the Rates and charges set forth above.

ADJUSTMENT FOR SECONDARY METERING:

The Company reserves the right to install the metering equipment on either the primary or secondary side of the transformers serving the customer, and when installed on the secondary side, at the Company's option, the Company shall correct for transformer losses by one of the two following methods: 1.) by using compensating-metering equipment or 2.) by increasing all demand and energy registrations by 2% each.

SPECIAL METERS:

Time-Of-Day and Interval Metering is available from the Company. Charges for such service are specified in the Miscellaneous Charges, Tariff Sheet 75.

DUPLICATE CIRCUIT SERVICE:

When service is furnished to provide redundancy to the Company's main service as requested by the customer, a contract demand shall be established by mutual agreement and shall be specified in the service contract. Such installations shall be considered a Premium Installation and shall be a separate account from the customer's main service.

ELECTRIC SERVICE REGULATIONS:

The Company's Electric Service Regulations shall apply to the installation and use of electric service.

GENERAL SERVICE - PRIMARY (RATE "GP")

CONTRACT:

Electric service hereunder shall be furnished in accordance with a written contract, which by its term shall be in full force and effect for a minimum period of two years and shall continue in force thereafter from year to year unless either party shall give to the other not less than 60 days notice in writing prior to the expiration date of any said yearly periods that the contract shall be terminated at the expiration date of said yearly period. When a contract is terminated in the manner provided herein, the service will be discontinued.

The Contract Demand shall be specified in the contract for electric service of customers establishing service after April 30, 2009 and of customers requiring or requesting a significant change in service. The Contract Demand shall be 60% of the customer's expected, typical monthly peak load. Customers with a Contract Demand on April 30, 2009 will remain at that existing Contract Demand level, until such time as they reestablish service or request or require a significant change in service. The Contract Demand shall be reevaluated based on actual usage upon customer request, no more than once per 12 month period.

If the Customer's capacity or service requirements increase, the Company, at its sole and exclusive judgement, may at any time require the Customer to enter into a new contract for electric service.

GENERAL SERVICE - SUBTRANSMISSION (RATE "GSU")

AVAILABILITY:

Available to general service installations requiring Subtransmission Service. Subtransmission Service is defined in the Company's Electric Service Regulations. Choice of voltage shall be at the option of the Company.

A customer qualifying for service under Rate GS may take distribution service under the terms and conditions of Rate GSU (including the Transformer Charge) if the transformer that directly serves such customer is: 1) located in the immediate vicinity; 2) is owned by the Company; and 3) has been directly fed by a Subtransmission voltage line since May 8, 2007.

A customer qualifying for service under Rate GP may take distribution service under the terms and conditions of Rate GSU (including the Transformer Charge) if the transformer that directly serves such customer is: 1) located in the immediate vicinity; 2) is owned by the Company; and 3) has been directly fed by a Subtransmission voltage line since May 8, 2007.

SERVICE:

All service under this rate schedule will be served through one meter for each installation.

The customer will be responsible for all transforming, controlling, regulating and protective equipment and its operation and maintenance unless the Transformer Charge applies to the customer.

The Transformer Charge is applicable to a customer premise with existing transformation in the immediate vicinity having been provided by the Company for the customer's use since May 8, 2007, in addition to all other applicable tariff charges.

If an increase in capacity of existing transformation owned by the Company is necessary or if the customer requires a change in service voltage on or after January 1, 2009, all necessary transforming, controlling, regulating and protective equipment shall be provided by the customer.

RATE:

All charges under this rate schedule shall be calculated as described below and charged on a monthly basis.

Distribution Charges:

Service Charge:	$180.00
Capacity Charge:	
For Each kW of billing demand	$0.9718
Reactive Demand Charge applicable to three phase customers only	
For each rkVA of reactive billing demand	$0.36

GENERAL SERVICE - SUBTRANSMISSION (RATE "GSU")

BILLING DEMAND:

The billing demand for the month shall be the greatest of:

1. Measured Demand, being the highest thirty (30) minute integrated kW
2. 30.0 kW
3. The Contract Demand

REACTIVE BILLING DEMAND:

For installations metered with reactive energy metering, the reactive billing demand in rkVA for the month shall be determined by multiplying the Measured Demand by the ratio of the measured lagging reactive kilovoltampere hours to the measured kilowatthours by the following formula: rkVA = Measured Demand X (measured lagging reactive kilovoltampere hours ÷ measured kilowatthours). For all other installations, the reactive billing demand shall be the integrated reactive demand occurring coincident with the Measured Demand.

TRANSFORMER CHARGE:

A monthly Transformer Charge of 54 cents per kW of Measured Demand shall be charged for existing transformation, and the Company will continue to own, operate and maintain all such necessary transforming, controlling, regulating and protective equipment.

APPLICABLE RIDERS:

The charges included with the applicable riders as designated on the Summary Rider, Tariff Sheet 80 shall be added to the Rates and charges set forth above.

ADJUSTMENT FOR SECONDARY METERING:

The Company reserves the right to install the metering equipment on either the primary or secondary side of the transformers serving the customer, and when installed on the secondary side, at the Company's option, the Company shall correct for transformer losses by one of the two following methods: 1.) by using compensating-metering equipment or 2.) by increasing all demand and energy registrations by 2% each.

SPECIAL METERS:

Time-Of-Day and Interval Metering is available from the Company. Charges for such service are specified in the Miscellaneous Charges, Tariff Sheet 75.

GENERAL SERVICE - SUBTRANSMISSION (RATE "GSU")

DUPLICATE CIRCUIT SERVICE:

When service is furnished to provide redundancy to the Company's main service as requested by the customer, a contract demand shall be established by mutual agreement and shall be specified in the service contract. Such installations shall be considered a Premium Installation and shall be a separate account from the customer's main service.

ELECTRIC SERVICE REGULATIONS:

The Company's Electric Service Regulations shall apply to the installation and use of electric service. The Company's general policy of supplying regulated voltages does not apply to this rate schedule.

CONTRACT:

Electric service hereunder shall be furnished in accordance with a written contract, which by its term shall be in full force and effect for a minimum period of two years and shall continue in force thereafter from year to year unless either party shall give to the other not less than 60 days notice in writing prior to the expiration date of any said yearly periods that the contract shall be terminated at the expiration date of said yearly period. When a contract is terminated in the manner provided herein, the service will be discontinued.

The Contract Demand shall be specified in the contract for electric service of customers establishing service after April 30, 2009 and of customers requiring or requesting a significant change in service. The Contract Demand shall be 60% of the customer's expected, typical monthly peak load. Customers with a Contract Demand on April 30, 2009 will remain at that existing Contract Demand level, until such time as they reestablish service or request or require a significant change in service. The Contract Demand shall be reevaluated based on actual usage upon customer request, no more than once per 12 month period.

If the Customer's capacity or service requirements increase, the Company, at its sole and exclusive judgement, may at any time require the customer to enter into a new contract for electric service.

GENERAL SERVICE - TRANSMISSION (RATE "GT")

AVAILABILITY:

Available to general service installations requiring Transmission Service. Transmission Service is defined in the Company's Electric Service Regulations. Choice of voltage shall be at the option of the Company.

A customer qualifying for service under Rate GP may take distribution service under the terms and conditions of Rate GT (including the Transformer Charge) if the transformer that directly serves such customer is: 1) located in the immediate vicinity; 2) is owned by the Company; and 3) has been directly fed by a Transmission voltage line since May 8, 2007.

SERVICE:

All service under this rate schedule will be served through one meter for each installation.

The customer will be responsible for all transforming, controlling, regulating and protective equipment and its operation and maintenance unless the Transformer Charge applies to the customer.

The Transformer Charge is applicable to a customer premise with existing transformation having been provided by the Company, including leased equipment, for the customer's exclusive use since May 8, 2007, in addition to all other applicable tariff charges.

If an increase in capacity of existing transformation owned by the Company is necessary or if the customer requires a change in service voltage on or after January 1, 2009, all necessary transforming, controlling, regulating and protective equipment shall be provided by the customer.

RATE:

All charges under this rate schedule shall be calculated as described below and charged on a monthly basis.

Distribution Charges:

Service Charge:	$320.00
Capacity Charge:	
For Each kVA of billing demand	$0.0010

BILLING DEMAND:

The billing demand for the month shall be the greatest of:

1. Measured Demand, being the highest thirty (30) minute integrated kVA.
2. 100.0 kVA
3. The Contract Demand

GENERAL SERVICE - TRANSMISSION (RATE "GT")

TRANSFORMER CHARGE:

A monthly Transformer Charge of 26 cents per kVA of Measured Demand shall be charged for existing transformation, and the Company will continue to own, operate and maintain all such necessary transforming, controlling, regulating and protective equipment. Any equipment costs incurred by the Company necessary to maintain or update such substation facilities shall be paid in full by the customer before such equipment is installed.

APPLICABLE RIDERS:

The charges included with the applicable riders as designated on the Summary Rider, Tariff Sheet 80 shall be added to the Rates and charges set forth above.

ADJUSTMENT FOR SECONDARY METERING:

The Company reserves the right to install the metering equipment on either the primary or secondary side of the transformers serving the customer, and when installed on the secondary side, at the Company's option, the Company shall correct for transformer losses by one of the two following methods: 1.) by using compensating-metering equipment or 2.) by increasing all demand and energy registrations by 2% each.

SPECIAL METERS:

Time-Of-Day and Interval Metering is available from the Company. Charges for such service are specified in the Miscellaneous Charges, Tariff Sheet 75.

ELECTRIC SERVICE REGULATIONS:

The Company's Electric Service Regulations shall apply to the installation and use of electric service. The Company's general policy of supplying regulated voltages does not apply to this rate schedule.

CONTRACT:

Electric service hereunder shall be furnished in accordance with a written contract, which by its term shall be in full force and effect for a minimum period of one year and shall continue in force thereafter from year to year unless either party shall give to the other not less than 60 days notice in writing prior to the expiration date of any said yearly periods that the contract shall be terminated at the expiration date of said yearly period. When a contract is terminated in the manner provided herein, the service will be discontinued.

The Contract Demand shall be specified in the contract for electric service of customers establishing service after April 30, 2009 and of customers requiring or requesting a significant change in service. The Contract Demand shall be 60% of the customer's expected, typical monthly peak load. Customers with a Contract Demand on April 30, 2009 will remain at that existing Contract Demand level, until such time as they reestablish service or request or require a significant change in service. The Contract Demand shall be reevaluated based on actual usage upon customer request, no more than once per 12 month period.

GENERAL SERVICE - TRANSMISSION (RATE "GT")

If the customer's capacity or service requirements increase, the Company, at its sole and exclusive judgement, may at any time require the customer to enter into a new contract for electric service.

ELECTRIC SERVICE REGULATIONS

C. **Delivery Voltage:** Subject to the provisions of paragraph IV.B above, and after the Company determines that facilities of adequate capacity are available and adjacent to the premises to be served, the types of service available with the nominal voltages are:

1. **Secondary Service** - Less than or equal to 600 volts

2. **Subtransmission Service** - 11,000 volts three wire and 36,000 volts three wire

3. **Transmission Service** - Greater than or equal to 69,000 volts

4. **Primary Service** - All other available voltages

Delivery voltage will be specified by the Company and will be based upon the availability of lines in the vicinity of the customer's premises and commensurate with the size of the customer's load. Customers with demands in excess of twenty-five hundred (2,500) kW will generally be served at Transmission Service

V. RATE SCHEDULE ALTERNATIVES

A. **Selecting Rate Schedule:** Where two or more alternative rate schedules are applicable to the same class of service, the Company, upon request, will assist a customer in selecting an appropriate rate schedule to be applied. The customer, however, shall select from the alternative rate schedules and such selection shall be the basis for the application or contract for service. No refund will be made representing the difference in charges under different rate schedules applicable to the same class of service except as required by law.

B. **Changing Rate Schedule:** Subject to limitations in the service contract or applicable rate schedule, the customer may change to an alternative applicable rate schedule, except that a customer contracting for a specified capacity served at available primary or transmission voltage shall not be eligible to recontract for service at secondary voltage, unless a secondary voltage circuit of adequate capacity is available adjacent to the premises and the customer complies with all of the provisions of the applicable secondary rate schedule.

VI. BILLING AND PAYMENT

A. **Billing Periods:** Bills for electric service will be rendered monthly or at the Company's option at other regular intervals. Bills rendered monthly shall typically cover a period of approximately 30 days.

B. **Due Dates:** For residential customers, bills are due and payable to the Company on or before fourteen (14) days from the date the bill is mailed to said customer. Governmental customers' bills are due and payable to the Company on or before thirty (30) days from the date the bill is mailed to said customer. All other customers' bills are due and payable to the Company on or before twenty-one (21) days from the date the bill is mailed to said customer. When the due date for payment falls on Saturday, Sunday or a holiday the due date for payment is extended to the next business day. Remittances mailed by the customer for the amount(s) due shall be accepted by the Company as tendered within the period to avoid late payment charges if such payment is received by the Company no more than five (5) days after the due date of the bill.

Summary: Testimony Direct Testimony of Dean Philips electronically filed by Mr. Joshua R. Eckert on behalf of The Cleveland Electric Illuminating Company