

BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI

In the Matter of the Application of	)	
UNION ELECTRIC COMPANY for permission	)	
and authority to construct, operate	)	Case No. EA-79-119
and maintain two combustion turbine	)	
generating units in the State of	)	
Missouri	)	

AMENDED APPLICATION

COMES NOW Union Electric Company (hereinafter referred to as "Applicant"), and in support of its Application for permission and authority under Section 393.170 RSMo 1969, to construct, operate and maintain two combustion turbine generating units in the State of Missouri, respectfully represents and states as follows:

1. Applicant is a corporation duly organized and existing under and by virtue of the laws of the State of Missouri, with its general business office at 1901 Gratiot Street, St. Louis, Missouri 63166. Applicant is engaged in rendering electric service in eastern and central Missouri, and steam heating service in a portion of downtown St. Louis as a public utility subject to the jurisdiction of this Commission. It also is engaged in rendering electric service in portions of Illinois and gas service in Alton, Illinois, and vicinity, as a public utility subject to the jurisdiction of the Illinois Commerce Commission, as well as electric service in southeastern Iowa as a public utility subject to the jurisdiction of the Iowa State Commerce Commission.

2. Communications in regard to this Application should be addressed to Michael F. Barnes, Attorney for Applicant, 1901 Gratiot Street, P.O. Box 149, St. Louis, Missouri 63166.



3. Applicant proposes to construct, operate and maintain two combustion turbine generating units (hereinafter referred to as "Turbine Units").

One unit will be constructed on a site at the east central portion of Applicant's Meramec Power Plant property and northwest of the power plant proper, which site is within Applicant's certified service area. The Meramec Power Plant, constructed pursuant to authority granted by this Commission in Case No. 11,925, is located at 8200 Fine Road, at the confluence of the Mississippi and Meramec Rivers, in St. Louis County, Missouri. The location of the Meramec Power Plant site in St. Louis County is shown on the map attached hereto, marked Revised Exhibit 1, and made a part hereof.

The other unit will be constructed on a site in the central portion of Applicant's Sioux Power Plant property and south of the power plant proper, which site is within Applicant's certified service area. The Sioux Power Plant, constructed pursuant to authority granted by this Commission in Case No. 15,151, is located in St. Charles County, Missouri on Highway 94 approximately 20 miles north-northwest of downtown St. Louis. The location of the Sioux Power Plant site in St. Charles County is shown on the map attached hereto, marked Exhibit 1A, and made a part hereof.

The location and relationship of the proposed generating units with generating and transmission facilities of Applicant (both existing and proposed) is shown on the map attached hereto, marked Revised Exhibit 2, and made a part hereof. The description of the tract of land upon which the proposed Meramec Turbine Unit will be constructed is attached hereto, marked Revised Exhibit 3, and made a part hereof. The description of the tract of land upon which the proposed

Sioux Turbine Unit will be constructed is attached hereto, marked Exhibit 3A, and made a part hereof.

4. One combustion turbine unit, constructed pursuant to authority granted by this Commission in Case No. 17,805, is now in operation at the Meramec Power Plant. The proposed Turbine Unit at Meramec will be constructed near the existing combustion turbine generating unit.

5. The two Turbine Units will be oil-fired peaking units, each with a maximum peak summer capacity rating of 51 megawatts and a base load summer rating of 48 megawatts. The Turbine Units' major parts consist of two gas generators and two axial flow turbines which drive a single tandem connected air cooled generator, an exciter which supplies electric current used to produce a magnetic field in the generator, and two air motors for initial starting. Applicant proposes to begin commercial operation of the two units in May 1980.

6. The construction, operation and maintenance of the two Turbine Units will provide Applicant with additional generating capacity for use during peak demand periods or in emergency situations. The two proposed Turbine Units will give Applicant a more reliable system with improved operability, thereby providing Applicant's customers with safe, reliable and economical electric service.

7. The demands upon Applicant for electric service have grown over the years and further growth is forecasted for the future. The all-time native system net integrated hour peak demand on Applicant's system of 5476 megawatts was experienced on July 19, 1977. Applicant estimates on the basis of the most recent forecast available that such peak demand will increase to 5990 megawatts in 1980, the year when the two proposed Turbine Units will go into service.

Adjusting this figure for purchases and sales of firm power, the peak demand is estimated at 5767 megawatts in 1980.

Applicant considers it prudent to plan for a reserve margin of about eighteen percent above the expected adjusted peak demand, a portion of which will be provided by power purchases.

At the present time, Applicant's total generating capacity, allowing for estimated environmentally forced plant deratings, is 6188 megawatts. Applicant's generating capacity will increase by 210 megawatts in 1979 when boilers 7 and 8 of Applicant's Venice Plant are returned to service. A further generating capacity increase of 102 megawatts is scheduled in 1980, when the two proposed Turbine Units commence operation. Additional power required to meet demand plus reserve requirements in the near future will be purchased from other utilities.

8. The two proposed Turbine Units will be interconnected through transmission facilities of Applicant to all other of Applicant's power plants and will be connected to other utility systems through intersystem connections in order that the electric energy to be generated can be utilized economically to the greatest advantage of the consuming public.

9. The installation of the two proposed Turbine Units will provide the Applicant with additional black-start capability. The black-start capability of these units will enable them to be started and brought on-line even when no external power is available, such as during a system-wide blackout. Such capability will greatly enhance the reliability of the Applicant's electrical system with regard to severe system or area-wide emergency situations.

10. The construction of the Meramec Turbine Unit will cost approximately \$8,800,000. The construction of the Sioux Turbine Unit will cost approximately \$9,700,000.



Applicant proposes to finance the construction of the two proposed units out of the funds available in its treasury, a portion of which may be obtained from new financing. The amount and nature of any new financing will be submitted to this Commission for approval.

11. The construction, operation and maintenance of the two proposed Turbine Units will serve the public convenience and necessity by providing additional capacity to Applicant's system during periods of high demand and a supply of electricity during emergencies.

WHEREFORE, Applicant prays:

1. That an order be issued by the Commission granting to Union Electric Company permission and authority to construct, operate and maintain, at the locations hereinabove described, the two proposed Turbine Units.

2. That the Commission make such other order or orders as it may deem just and proper.

Dated at St. Louis, Missouri, this 26 day of February, 1979.

UNION ELECTRIC COMPANY

By:

H. C. Coltery  
H. C. Coltery  
Vice President

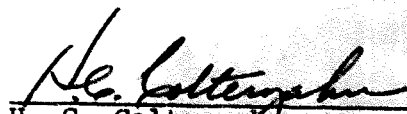
Michael F. Barnes  
Michael F. Barnes

William E. Jaydes  
William E. Jaydes


Attorneys for Applicant  
P.O. Box 149  
St. Louis, Missouri 63166  
(314) 621-3222

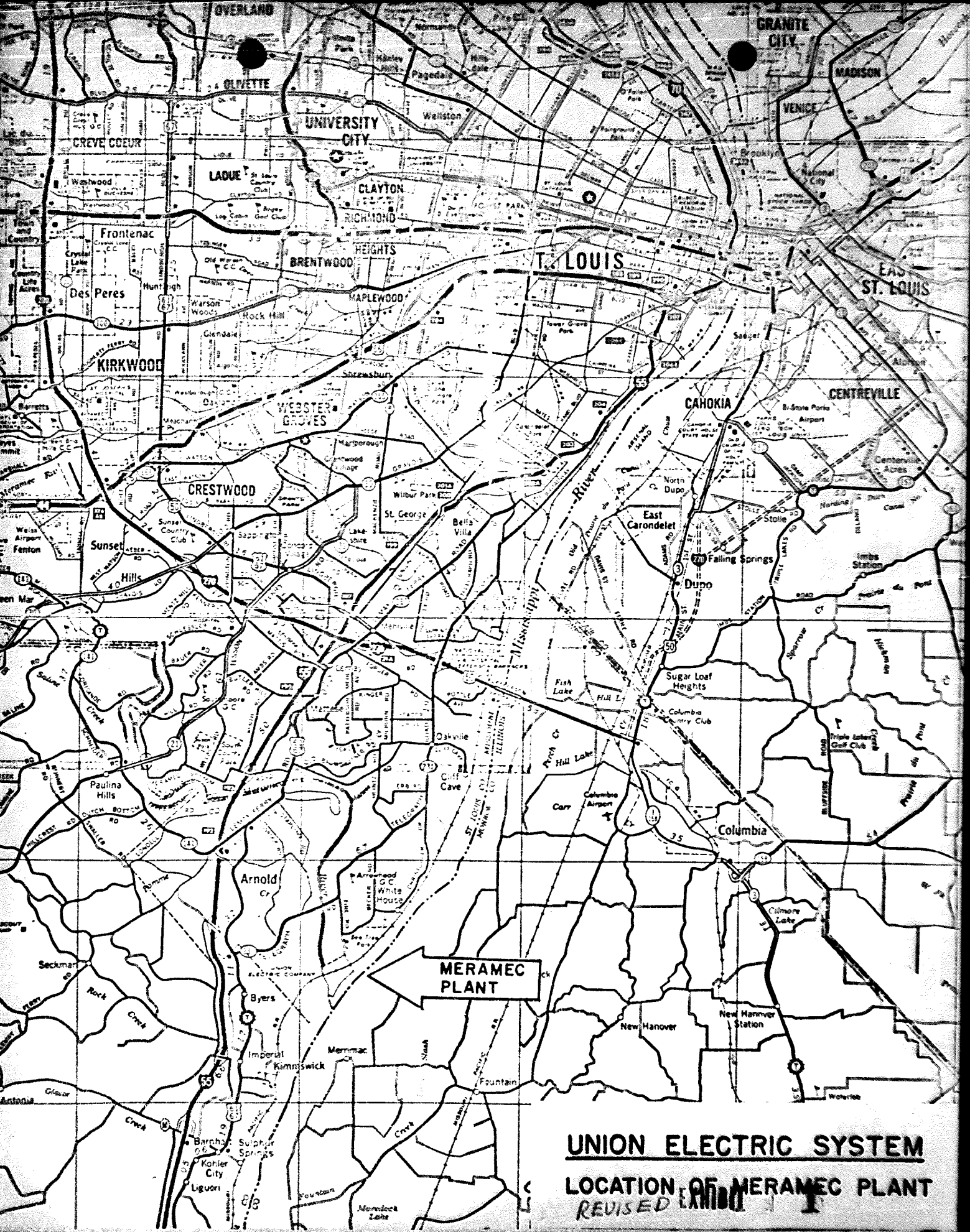
STATE OF MISSOURI     )  
                              )     SS  
CITY OF ST. LOUIS     )

H. C. Colteryahn, of lawful age, being duly sworn,  
deposes and says: that he is a Vice President of Union  
Electric Company, the corporation described in the foregoing  
Application; that he is duly authorized to and did sign said  
Application as such Vice President; that he has knowledge of  
the facts stated in the foregoing Application; and for and  
on behalf of said corporation states that such facts are  
true to the best of his knowledge and belief.

  
H. C. Colteryahn  
Vice President

Subscribed and sworn to before me this 26<sup>th</sup> day of  
February, 1979.

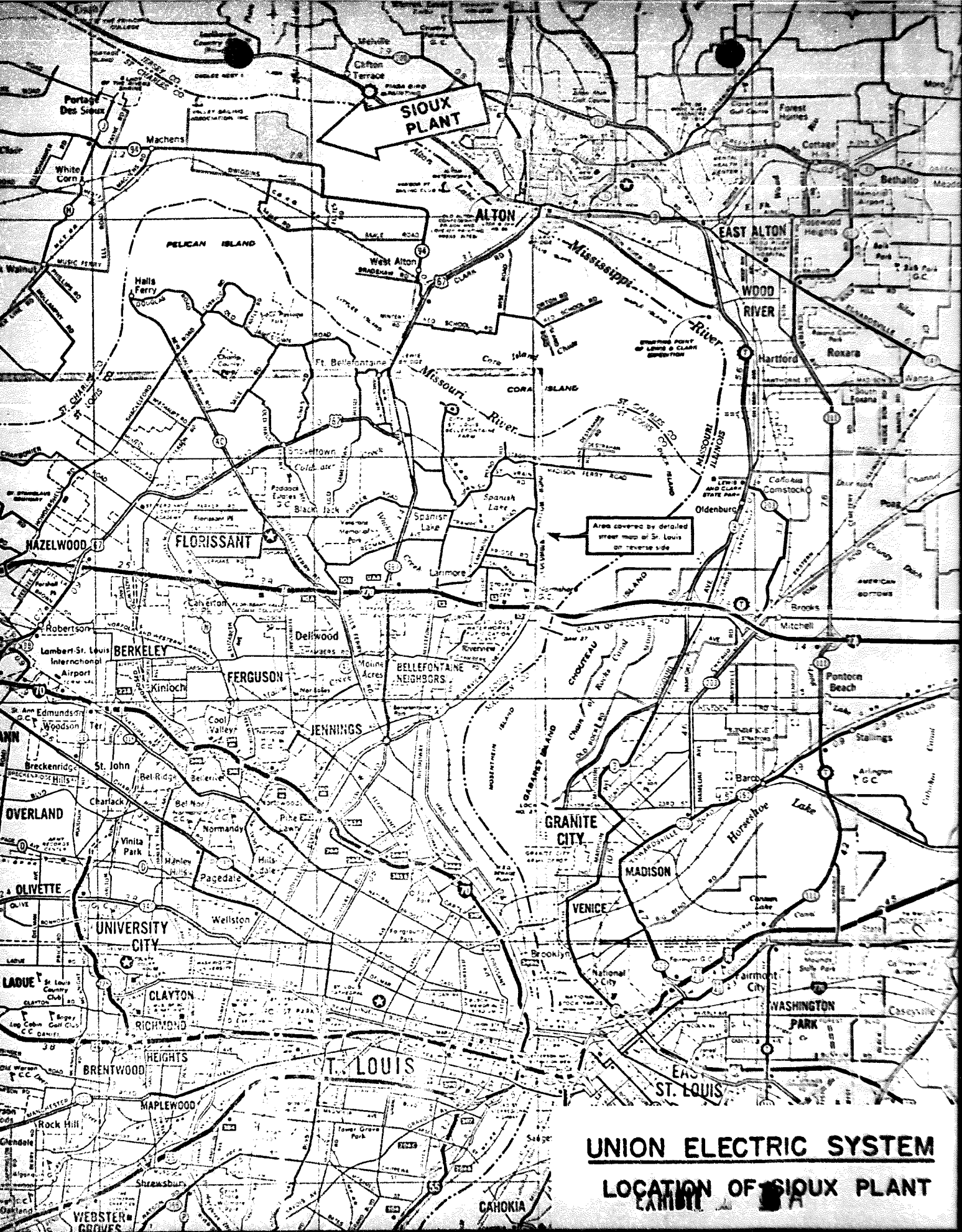
  
PATRICIA ANN DORRIS  
NOTARY PUBLIC, STATE OF MISSOURI  
MY COMMISSION EXPIRES 1/31/82  
ST. LOUIS COUNTY



**UNION ELECTRIC SYSTEM**

**LOCATION OF MERAMEC PLANT**

**REVISED EDITION**



**SIoux PLANT**

Area covered by detailed street map of St. Louis on reverse side

**UNION ELECTRIC SYSTEM**  
**LOCATION OF SIoux PLANT**



DESCRIPTION  
MERAMEC PLANT  
COMBUSTION TURBINE GENERATOR SITE

A tract of land in U.S. Surveys 50 and 3051, Township 42 North, Range 6 East, St. Louis County, Missouri, described as follows, to wit:

Beginning at the point of intersection of the Northeastern line of Fine Road, now vacated, and the eastern line of Tract "D", a tract of 3.09 acres, as shown on the plat recorded December 1, 1937 in Plat Book 33 at Page 47 of the St. Louis County Recorder's Office which plat is according to a survey made by Elbring Surveying Company, revised as of October 4, 1937; thence from said point of beginning South  $66^{\circ} 38'$  West 601.22 feet to a point; thence North  $23^{\circ} 22'$  West 8.45 feet to the point of beginning of the tract described herein; thence South  $66^{\circ} 38'$  West 700 feet to a point; thence South  $23^{\circ} 22'$  East 700 feet to a point; thence North  $66^{\circ} 38'$  East 700 feet to a point; thence North  $23^{\circ} 22'$  West 700 feet to the point of beginning, containing 11.249 acres, more or less.

REVISED

EXHIBIT

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**DESCRIPTION  
SIOUX PLANT  
COMBUSTION TURBINE GENERATOR SITE**

Beginning at the point of interesection of the North right of way line of Missouri State Highway Route 94 and the West line of Lot 1 of the Samuel Griffith Partition in U.S. Survey 1838, Township 48 North, Range 6 East, St. Charles County, Missouri, said West line also being the West line of a tract of land more particularly described in Deed dated February 2, 1957, recorded in Book 298 at Page 233 of the Land Records of St. Charles County, Missouri, thence along said West line N 07° 59' E a distance of 526.50' to a point, thence S 82° 25' E a distance of 2,760.63' to a point, thence N 7° 35' E a distance of 500.00' to the true point of beginning of the tract herein described, thence continue on said bearing of N 7° 35' E a distance of 750' to a point, thence S 82° 25' E a distance of 450' to a point, thence S 7° 35' W a distance of 750' to a point, thence N 82° 25' W a distance of 450' to the point of beginning.

*Quinn*

February 27, 1979

Mr. Michael F. Barnes  
Attorney at Law  
Union Electric Company  
P. O. Box 149  
St. Louis, Missouri 63166

Re: Case No. EA-79-119

Dear Mr. Barnes:

We acknowledge receipt of your letter dated February 26, 1979, enclosing the original and nine copies of the amended application, in the above numbered case.

The application has been filed in this office today and called to the attention of the Commission.

Sincerely,

Lawson Phaby  
Acting Secretary

LP/jf