

CAPTION SHEET

CASE MANAGEMENT SYSTEM

1. REPORT DATE: 00/00/00	:	
2. BUREAU: FUS	:	
3. SECTION(S):	:	4. PUBLIC MEETING DATE:
5. APPROVED BY:	:	00/00/00
DIRECTOR:	:	
SUPERVISOR:	:	
6. PERSON IN CHARGE:	:	7. DATE FILED: 08/02/04
8. DOCKET NO: A-110500 F0348	:	9. EFFECTIVE DATE: 00/00/00

PARTY/COMPLAINANT: MOUNT JOY # 2 138/69 KV TAP LINE

RESPONDENT/APPLICANT: PPL ELECTRIC UTILITIES CORP

COMP/APP COUNTY: UTILITY CODE: 110500

ALLEGATION OR SUBJECT

LETTER OF NOTIFICATION OF PPL ELECTRIC UTILITIES CORPORATION FILED PURSUANT TO 52 PA. CODE CHAPTER 57 SUBCHAPTER G WITH RESPECT TO THE MOUNT JOY #2 138 KV TAP LINE TO BE CONSTRUCTED IN THE BOROUGH OF MOUNT JOY, LANCASTER COUNTY.

DOCUMENT FOLDER

DOCKETED
AUG 05 2004

Morgan, Lewis & Bockius LLP
1701 Market Street
Philadelphia, PA 19103-2921
Tel: 215.963.5000
Fax: 215.963.5001
www.morganlewis.com

Morgan Lewis
COUNSELORS AT LAW

ORIGINAL

Anthony C. DeCusatis
215.963.5034
adecusatis@morganlewis.com

August 2, 2004

VIA OVERNIGHT MAIL

James J. McNulty, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor
Harrisburg, PA 17120

Re: **Letter of Notification of PPL Electric Utilities Corporation Filed Pursuant to 52 Pa. Code Chapter 57 Subchapter G With Respect to the Mount Joy #2 138/69 kV Tap Line to be Constructed in the Borough of Mount Joy, Lancaster County**

Dear Secretary McNulty:

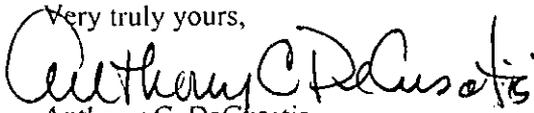
A-110500 FO348

Enclosed for filing in the above-captioned matter are an original and six (6) copies of PPL Electric Utilities Corporation's ("PPL") Letter of Notification requesting approval to construct the Mount Joy #2 138/69 kV Tap Line. This Letter of Notification is filed pursuant to the Commission's regulations at 52 Pa. Code Section 57.72(d).

Copies of the Letter of Notification have been served upon the parties listed on the attached Certificate of Service. The enclosed documents are to be deemed filed on the date shown above, which is the date they were deposited with an overnight express delivery service as shown on the delivery receipt attached to the mailing envelope.

Also enclosed is an additional copy of the Letter of Notification, which we request that you date stamp as evidence of filing and return to us in the stamped, self-addressed envelope provided for that purpose

Very truly yours,


Anthony C. DeCusatis
Counsel for PPL Electric Utilities Corporation

Enclosure

cc: Darren Gill

DOCUMENT
FOLDER
DOCUMENTED
AUG 05 2004

Philadelphia Washington New York Los Angeles Miami Harrisburg Pittsburgh
Princeton Northern Virginia London Brussels Frankfurt Tokyo

1-PH/2054941.1

145

ORIGINAL

RECEIVED

AUG 02 2004

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION
PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

Re: Letter Of Notification Of PPL Electric :
Utilities Corporation Filed Pursuant To 52 :
Pa. Code Chapter 57 Subchapter G With :
Respect To The Mount Joy #2 138 kV Tap :
Line To Be Constructed In The Borough Of :
Mount Joy, Lancaster County :

Docket No. A-110500 F0348

LETTER OF NOTIFICATION

1. This Letter of Notification is filed pursuant to 52 Pa. Code §57.72(d)(1)(vi) to request the approval of the Pennsylvania Public Utility Commission ("Commission") to add a second 138/69 kV circuit to PPL's existing Mount Joy 138/69 kV Tap Line in the Borough of Mount Joy, Lancaster County. The construction of the Mount Joy #2 138/69 kV Tap Line, together with new, larger capacity transformers to be installed at the Mount Joy 69/12 kV Substation, is needed to meet increasing demand for electricity and improve reliability in the area served by the Mount Joy Substation. The construction of the Mount Joy #2 138/69 kV Tap Line is scheduled to begin in February 2005 to support the project's in-service date in May 2005. Accompanying this Letter of Notification is a separately bound volume containing Exhibits A-C and Appendices A-D, which provide additional information about the project. This Letter of Notification and the accompanying Exhibits and Appendices, which are incorporated herein by reference, contain all of the information required by 52 Pa. Code § 57.72(d)(4).

2. The applicant is PPL Electric Utilities Corporation ("PPL"), Two North Ninth Street, Allentown, Pennsylvania 18101, a public utility incorporated in Pennsylvania for the purpose of supplying light, heat and power to the public by means of electricity in all or portions of twenty-nine counties in eastern-central Penn

DOCKETED
AUG 05 2004
DOCUMENT FOLDER

3. PPL's attorneys are:

David B. MacGregor
Anthony C. DeCusatis
Morgan, Lewis & Bockius LLP
1701 Market Street
Philadelphia, Pennsylvania 19103
215.963.5034 (T) 215.963.5001(Fax)

Paul E. Russell
PPL Electric Utilities Corporation
Two North Ninth Street
Allentown, Pennsylvania 18101
610.774.4254 (T) 610.774.6726 (Fax)

PPL's attorneys are authorized to receive all notices and communications regarding this Letter of Notification.

4. PPL plans to install approximately 780 feet of transmission line on the vacant side of its existing Mount Joy 138/69 kV Tap Line. The proposed Mount Joy #2 138/69 kV Tap Line will extend from the existing Mount Joy #1 138/69 kV Tap to PPL's existing Mount Joy 69-12 kV Substation. In conjunction with the construction of the Mount Joy #2 138/69 kV Tap Line, PPL will increase the capacity of the two transformers at the Mount Joy 69-12 kV Substation from 10 MVA to 25 MVA. With the addition of the Mount Joy #2 Tap Line, each transformer will be fed from a different circuit and will have a separate protective fuse. These facilities will avoid the potential prolonged outage that could result if one of the two transformers were to fail. A detailed explanation of the need for this project, including the alternatives considered, is set forth in Exhibit A.

5. PPL plans to install support arms, insulators and conductors on the vacant side of the existing Mount Joy 138/69 kV Tap Line to provide a second circuit to supply the Mount Joy 69-12 kV Substation. The line will be designed and built for 138 kV operations, but will initially be operated at 69 kV. Three arms will be added to each of three existing structures to accommodate

the installation of the proposed tap line. One additional pole, approximately 60 feet in height, and associated guying needs to be installed on existing PPL right-of-way, as shown on Figure 1 in Exhibit B. The proposed line will consist of three power conductors, which will be 556.5 KCMIL 24/7 stranding ACSR. No additional overhead ground wire is required because the existing ground wire will provide adequate protection for both the existing circuit and the circuit being added.

6. The project will be designed, constructed, operated and maintained in a manner that satisfies or surpasses National Electrical Safety Code (“NESC”) standards, PPL’s applicable design criteria and safety practices, and all applicable legal requirements. The proposed project will not create an unreasonable risk of danger to the public health or safety. A description of NESC standards and PPL’s design criteria and safety practices is set forth in Appendix A. Minimum conductor-to-ground clearances will be 25 feet, as more fully explained in Exhibit B.

7. A small section of additional right-of-way is required to connect the proposed second circuit to the substation. This additional right-of-way has been acquired. The plot plan at the end of Exhibit B depicts this right-of-way.

8. The project described herein is proposed to begin in February 2005 to support the project’s in-service date in May 2005. The estimated cost of the Mount Joy #2 138/69 kV Tap Line is \$69,000.

9. The construction of the Mount Joy #2 138/69 Tap Line will have few, if any, impacts because it will be installed on the vacant side of the existing Mount Joy Tap Line, and only a single new pole needs to be constructed (see Figure 1 in Exhibit B).

10. A project review by the Pennsylvania Historical and Museum Commission has determined that this project will have no effect on archeological resources. There are no places of historic or cultural interest that will be affected by the project.

11. The project will not affect any unique geological, scenic or natural areas. No National Natural Landmarks, parks, or recreational facilities are located near the project area. The line will not cross any wetlands or other aquatic resources. In conducting the work necessary for this project, PPL will employ, as appropriate, the mitigating measures set forth in its "Program for Vegetation Management" and "Specifications for Soil Erosion and Sedimentation Control for Transmission Line Rights-of-Way." In addition, PPL has coordinated with various state and federal agencies and determined that no threatened or endangered plant or animal species will be affected by the project. PPL's environmental assessment of the proposed relocation is set forth in Exhibit C.

12. A copy of this Letter of Notification is being served in accordance with the provisions of 52 Pa. Code §57.72(d)(3).

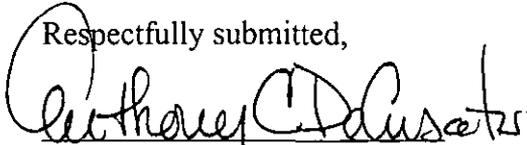
13. As soon as practicable after the filing of this Letter of Notification, PPL will publish notice of the filing in newspapers of general circulation in the area of the proposed project. Such notice will contain: (a) the date this Letter of Notification was filed with the Commission; (b) a brief description of the project and its location; (c) locations where the complete Letter of Notification may be reviewed by the public; and (d) an instruction that the interested parties should contact, within 15 days, James J. McNulty, Secretary, at the Commission's Harrisburg address.

14. This Letter of Notification is filed on the date set forth below. As provided in 52 Pa. Code § 57.72(d)(5), the Commission will review and, by order, approve or disapprove this Letter

of Notification. If the Commission approves this Letter of Notification, the proposed project will be constructed as proposed herein without the formal application process set forth at 52 Pa. Code §57.71 *et seq.* If the Commission does not approve this Letter of Notification, the Commission's Order shall direct PPL to file for approval to construct the proposed project pursuant to the Commission's formal certification regulations.

WHEREFORE, PPL respectfully requests that the Commission approve the construction of the Mount Joy #2 138/69 kV Tap Lines as proposed herein.

Respectfully submitted,



David B. MacGregor
Anthony C. DeCusatis
Morgan, Lewis & Bockius LLP
1701 Market Street
Philadelphia, PA 19103

Paul E. Russell
PPL Electric Utilities Corporation
Two North Ninth Street
Allentown, PA 18101

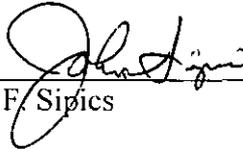
Attorneys for PPL Electric Utilities
Corporation

Dated: August 2, 2004

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA)
 :
 : SS
COUNTY OF LEHIGH :
)

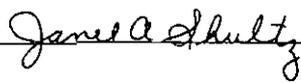
JOHN F. SIFICS, being duly sworn according to law, deposes and says that he is President of PPL Electric Utilities Corporation; that he is authorized to and does make this affidavit for it; and that the facts set forth above are true and correct to the best of his knowledge, information and belief and he expects PPL Electric Utilities Corporation to be able to prove the same at hearing hereof.



John F. Sifics

Sworn to and subscribed
before me this 29th day
of July, 2004.

Notarial Seal
Janet A. Shultz, Notary Public
City of Allentown, Lehigh County
My Commission Expires Oct. 17, 2005



**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Letter Of Notification Of PPL Electric :
Utilities Corporation Filed Pursuant To :
52 Pa. Code Chapter 57 Subchapter G :
With Respect To The Mount Joy #2 : Docket No. _____
138/69 kV Tap Line To Be Constructed :
In The Borough Of Mount Joy, :
Lancaster County

CERTIFICATE OF SERVICE

I hereby certify that I have, this 2nd day of August, 2004, served true and correct copies of the Letter of Notification and accompanying Exhibit Nos. A, B and C upon the persons and in the manner listed below.

BY CERTIFIED MAIL/RETURN RECEIPT REQUESTED

(GOVERNMENTAL AGENCIES)

Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Division of Archaeology and Protection
P.O. Box 1026
Harrisburg, Pennsylvania 17108-1026
Attn: Mr. Kurt W. Carr, Chief

Commonwealth of Pennsylvania
Department of Transportation
Commonwealth Keystone Building
400 North Street, 8th Floor
Harrisburg, Pennsylvania 17120
Attn: The Honorable Allen D. Biehler, Secretary

Department of Environmental Protection
P.O. Box 2063
Market Street State Office Building
Harrisburg, Pennsylvania 17105-2063
Attn: Office of Field Operations

Lancaster County Commissioners
50 N. Duke Street
P.O. Box 83480
Lancaster, Pennsylvania 17603-3480
Attn: Mr. Howard Shaub, Chair

RECEIVED
AUG 02 2004
PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

Lancaster County Planning Commission
50 N. Duke Street
P.O. Box 83480
Lancaster, Pennsylvania 17603-3480
Attn: Mr. Ronald Bailey, Executive Director

Mount Joy Borough Council
21 East Main Street
Mount Joy, PA 17552
Attn: Mr. Donald Zeller, President

Mount Joy Borough Planning Commission
21 East Main Street
Mount Joy, PA 17552
Attn: Mr. Mark Heister, Chair

PROPERTY OWNER

Thomas J. Daly
Rosemarie A. Daly
740 East Main Street
Mount Joy, PA 17522-9502



Anthony C. DeCusatis
Counsel for PPL Electric Utilities
Corporation

August 2, 2004

ORIGINAL



Before the
Pennsylvania Public Utility Commission

Mount Joy #2 138/69 kV Line

RECEIVED
AUG 02 2004
PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

Letter of Notification

Application Docket No. A-110500 F0348

Submitted by: PPL Electric Utilities Corp.

DOCKETED
AUG 05 2004

DOCUMENT
FOLDER

SUMMARY

This filing is submitted by PPL Electric Utilities Corporation (PPL) pursuant to the Pennsylvania Public Utility Commission's (PUC, or the Commission) regulations at 52 Pa. Code §§57.71 through 57.77 for PUC approval to add a second 138/69 kV circuit to the existing Mount Joy 138/69 kV Tap. The proposed second circuit is required to meet the increasing demand for electricity and improve reliability. It will also allow substation maintenance to be performed during normal working hours with no interruption of service.

The estimated cost to design and construct the Mount Joy 138/69 kV Tap is \$69,000. Construction is scheduled to begin in February 2005 to support the project's in-service date of May 2005.

This document, which describes the need for the project and discusses the engineering and siting analysis for the proposed construction, consists of the following exhibits and appendices:

- Exhibit "A" - Necessity Statement
- Exhibit "B" - Engineering Description
- Exhibit "C" - Environmental Assessment

- Appendix A - PPL Design Criteria and Safety Practices
- Appendix B - Magnetic Field Management at PPL
- Appendix C - List of Property Owners Within the Proposed Right-of-Way
- Appendix D - List of Involved Governmental Agencies, Municipalities, and Other Public Entities

Exhibit A

EXHIBIT "A"
MOUNT JOY #2 138/69 kV TAP
NECESSITY STATEMENT

TABLE OF CONTENTS

<u>SECTION</u>	<u>TOPIC</u>	<u>PAGE</u>
A.	INTRODUCTION.....	1
B.	EXISTING SYSTEM.....	2
C.	DEFINITION OF THE PROBLEM.....	2
D.	PROPOSED SOLUTION.....	2
E.	FUNCTIONAL ALTERNATIVES.....	3

LIST OF FIGURES

FIGURE 1	EXISTING SUBSTATION ARRANGEMENT.....	4
FIGURE 2	EXISTING 138/69 kV SYSTEM.....	4
FIGURE 3	FUTURE SUBSTATION ARRANGEMENT.....	5
FIGURE 4	PRPOSED 138/69 kV SYSTEM MODIFICATION.....	5

MAP

MAP 1 PPL TRANSMISSION FACILITY MAP

EXHIBIT "A"
MAP POCKET

EXHIBIT "A"
MOUNT JOY #2 138/69 kV TAP
NECESSITY STATEMENT

A. INTRODUCTION

PPL is requesting PUC approval to install approximately 780 feet of 138/69 kV transmission line. The proposed Mount Joy #2 138/69 kV Tap will extend from the existing Mount Joy #1 138/69 kV Tap to the Mount Joy 69-12 kV Substation. The line will be designed and constructed to operate at 138 kV although, initially, it will operate at 69 kV. The existing Mount Joy Tap was constructed about 1974 to accommodate a future second circuit. The proposed line will occupy the vacant side of the existing Mount Joy Tap. Under PPL Planning Guidelines, the proposed line is required to meet the increasing demand for electricity and improve reliability. It will also allow substation maintenance to be performed during normal working hours with no interruption of service.

The estimated cost to design and construct the proposed tap is \$69,000. Installation is scheduled to begin in February 2005 to support the project's required in-service date of May 2005. The required in-service date is defined as the date the proposed facility needs to be placed in service to prevent overloads that have the potential to damage existing facilities and, thereby, cause the interruption of service to customers.

A PPL system map showing the existing transmission line facilities with a design voltage of 35 kV or greater is included in the Exhibit "A" map pocket. This filing addresses only the existing and proposed 138 kV regional transmission system in the Mount Joy area.

B. EXISTING SYSTEM

Presently, the two transformers at the Mount Joy Substation are supplied by the existing single-circuit Mount Joy 138/69 kV Tap. Under this arrangement, one fuse protects both transformers. Figure 1 on page 4 is a functional diagram of the existing substation arrangement. Figure 2, also on page 4, depicts the existing 138/69 kV system.

C. DEFINITION OF THE PROBLEM

In its present configuration, the failure of either transformer will blow the one existing fuse and remove the entire substation from service. During periods of high demand, this will interrupt approximately 24 MW of load or approximately 1250 customers. An estimated 14 MW of load could be returned to service once the damaged transformer is isolated and the blown fuse is replaced. The balance of the customers would remain out of service until repairs could be made because the total peak substation load exceeds the emergency rating of the remaining transformer.

D. PROPOSED SOLUTION

In order to alleviate the problems cited above, the Company plans the following system modifications and additions. First, the two 10 MVA transformers at Mount Joy Substation will be replaced by two 25 MVA transformers, more than doubling the existing capability of the substation. Second, with PUC approval the Company proposes to add a second 138/69 kV circuit to the existing Mount Joy Tap. These changes will increase reliability and improve operating flexibility. The increase in transformer size allows one transformer to carry the entire load of the substation. The additional transmission line keeps half of the substation in service in the event of the failure of one of the transformers. The total estimated cost of this solution is \$507,000, which includes the estimated \$69,000 cost for installation of the proposed second circuit on the Mount Joy Tap. Figures 3 and 4 on page 5 depict the proposed system modifications.

E. FUNCTIONAL ALTERNATIVES

One other functional alternative was identified to resolve the problems noted above. This alternative would include the following work:

- Rebuild approximately 6.5 miles of 12 kV distribution line.
- Design and construct approximately 2,000 feet of new 12 kV distribution line.
- Install a new air break.

The estimated cost of this alternative is \$930,000. The alternative identified under proposed solution above was selected because it was the more economical choice.

FIGURE 1 – EXISTING SUBSTATION ARRANGEMENT

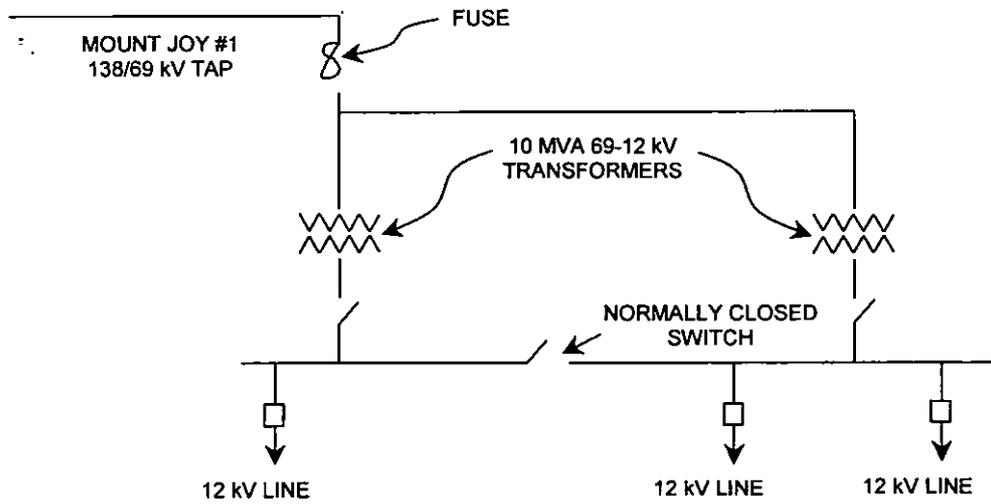


FIGURE 2 – EXISTING 138/69 kV SYSTEM

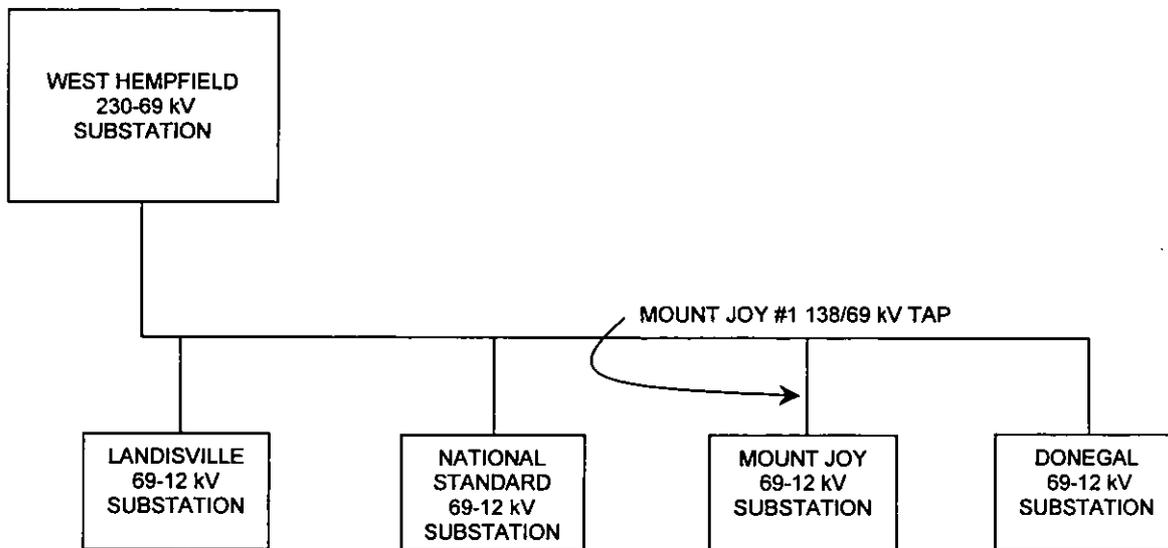


FIGURE 3 – FUTURE SUBSTATION ARRANGEMENT

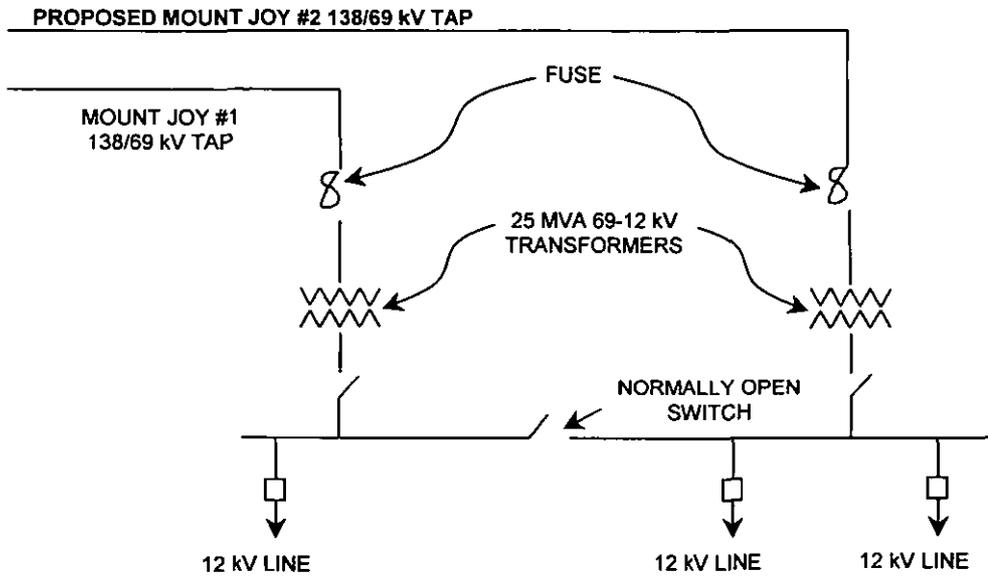


FIGURE 4 – PROPOSED 138/69 kV SYSTEM MODIFICATION

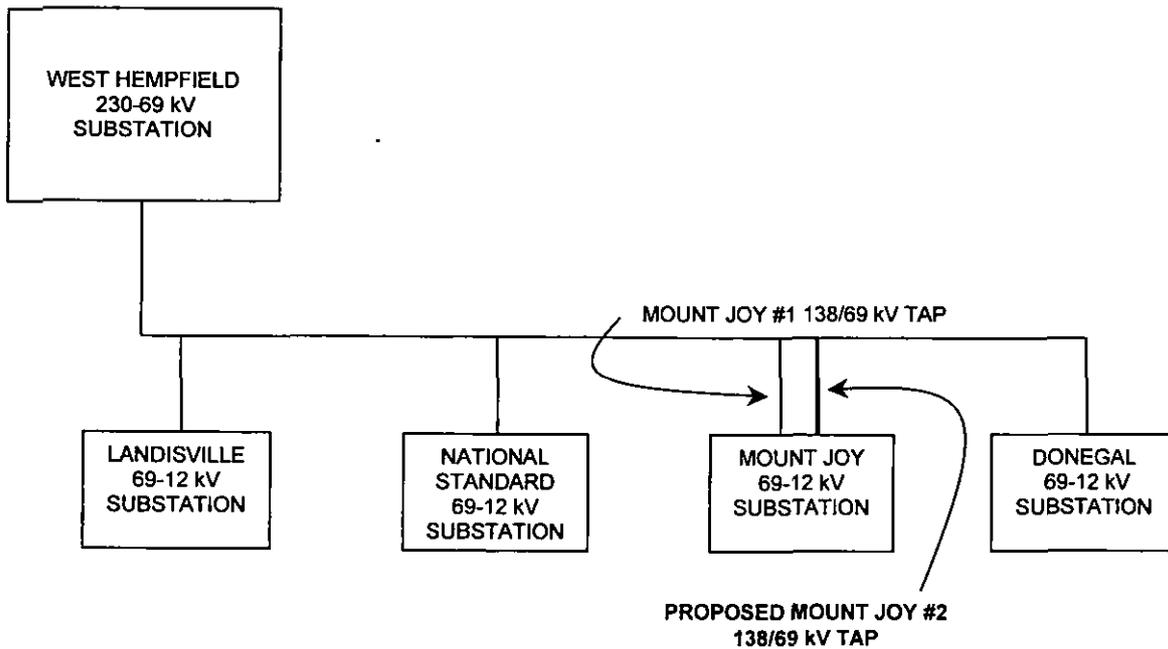
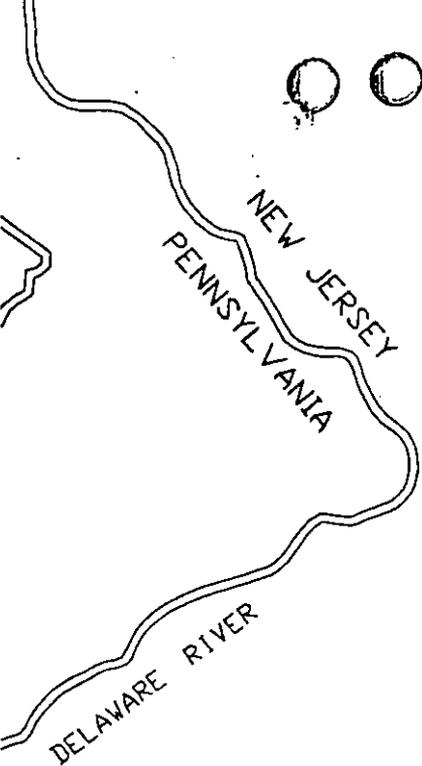


Exhibit B



**OVERSIZED
DOCUMENT(S)**



ACCT- 805201		ELECTRICAL SYSTEM MAP	
SCALE- NONE			
BY-			
REVIEWED		MOUNT JOY #2 138/69KV TAP	
APPROVED ORIGINALLY BY G. HAKUN III		DATE 7/17/85	
PP&L DRAWING NO. D191830		SHEET NO. 1	REV. 28
APPROVED			

EXHIBIT "B"
MOUNT JOY #2 138/69 kV TAP
ENGINEERING DESCRIPTION

TABLE OF CONTENTS

<u>SECTION</u>	<u>TOPIC</u>	<u>PAGE</u>
A.	DESCRIPTION OF PROPOSED LINE	1
B.	MAGNETIC FIELD MANAGEMENT.....	4
C.	RIGHT-OF-WAY STATUS.....	4

LIST OF TABLES

TABLE 1	DESIGN MINIMUM CONDUCTOR CLEARANCES.....	3
---------	--	---

LIST OF FIGURES

FIGURE 1	PHOTO OF PROPOSED SECOND CIRCUIT
----------	----------------------------------

MAP

MAP 1	PLOT PLAN EXHIBIT.....
-------	------------------------

EXHIBIT "B"
ENGINEERING DESCRIPTION
MOUNT JOY #2 138/69 kV TAP

A. DESCRIPTION OF PROPOSED LINE

PPL proposes to add a second 138/69 kV circuit to the existing Mt. Joy 138/69 kV Tap. The proposed line will supply electricity directly to a second transformer in PPL's Mt. Joy 69-12 kV Substation. The project is located in Mt. Joy Borough, Lancaster County. A plot plan for the transmission line project is provided in the Exhibit "B" map pocket.

The proposed tap is approximately 780 feet long. Three arms will be added to each of three existing structures to accommodate the installation of the proposed tap line. One additional pole, approximately 60 feet tall, and associated guying needs to be installed on existing PPL right-of-way. The proposed line will consist of three power conductors. The conductors will be 556.5 KCMIL 24/7 stranding ACSR. No additional overhead ground wire is required because the existing ground wire provides the appropriate protection. Refer to Figure 1 at the end of Exhibit "B."

The proposed line will be designed to, and generally exceed, National Electrical Safety Code (NESC) standards. Design specifications and safety rules practiced by PPL are included in Appendix A. Because the proposed second circuit is being supported by existing structures that were constructed around 1974, the minimum conductor to ground clearance will be 25 feet which occurs at a maximum conductor temperature of 125°C. While this 25-foot ground clearance is lower than the 30-foot ground clearance described in Appendix A, it is four feet more than the NESC required clearance of 21 feet. In 1994, PPL increased the minimum ground clearance of its design specification for 138 kV-constructed lines to 30 feet as a part of its magnetic field management plan. Because the Mount Joy #2 138/69 kV Tap will be installed on the vacant side of an existing single circuit line that was built in or about 1974 to meet PPL's then-approved clearances, a minimum conductor-to-ground clearance in excess of 25 feet is not

possible without completely rebuilding the entire Mount Joy Tap Line. Rebuilding of the existing line is not feasible and would not be consistent with the "low or no cost" criterion of PPL's Magnetic Field Management Plan. However, as explained in Section B (Magnetic Field Management), reverse phasing of the #1 and #2 Mount Joy Tap Lines when the second circuit is installed is feasible at low or no cost and, therefore, will be employed by PPL. Reverse phasing of the double circuit line will reduce the magnetic fields of the double circuit line section. The magnetic field management plan is described in greater detail in Appendix B. The designed minimum conductor clearances and conductor thermal ratings are as follow:

TABLE 1
DESIGN MINIMUM CONDUCTOR CLEARANCES
FOR 556.5 KCMIL 24/7 STRANDING ACSR*

<u>Condition</u>	<u>Transmission Double-Circuit Design Clearance-to-Ground</u>
Normal load average weather (16°C ambient temperature)	27.7 feet
Predicted extreme thermal load (125°C conductor temperature)	25.0 feet
Predicted extreme weather conditions (1/2-inch ice, 8 lbs. wind, -18°C)	28.2 feet

*Clearances based on a maximum tension of 3540 pounds and a ruling span of 290 feet.

CONDUCTOR THERMAL RATING
556.5 KCMIL 24/7 STRANDING ACSR
(257°F) 125°C MAXIMUM CONDUCTOR TEMPERATURE

Condition	<u>Ambient Temperature °C</u>	<u>Wind Speed Knots</u>	<u>Ampacity Amps</u>
Summer Normal	35	0	810
Winter Normal	10	0	920
Summer Emergency	35	1 1/2	1,030
Winter Emergency	10	1 1/2	1,150

B. MAGNETIC FIELD MANAGEMENT

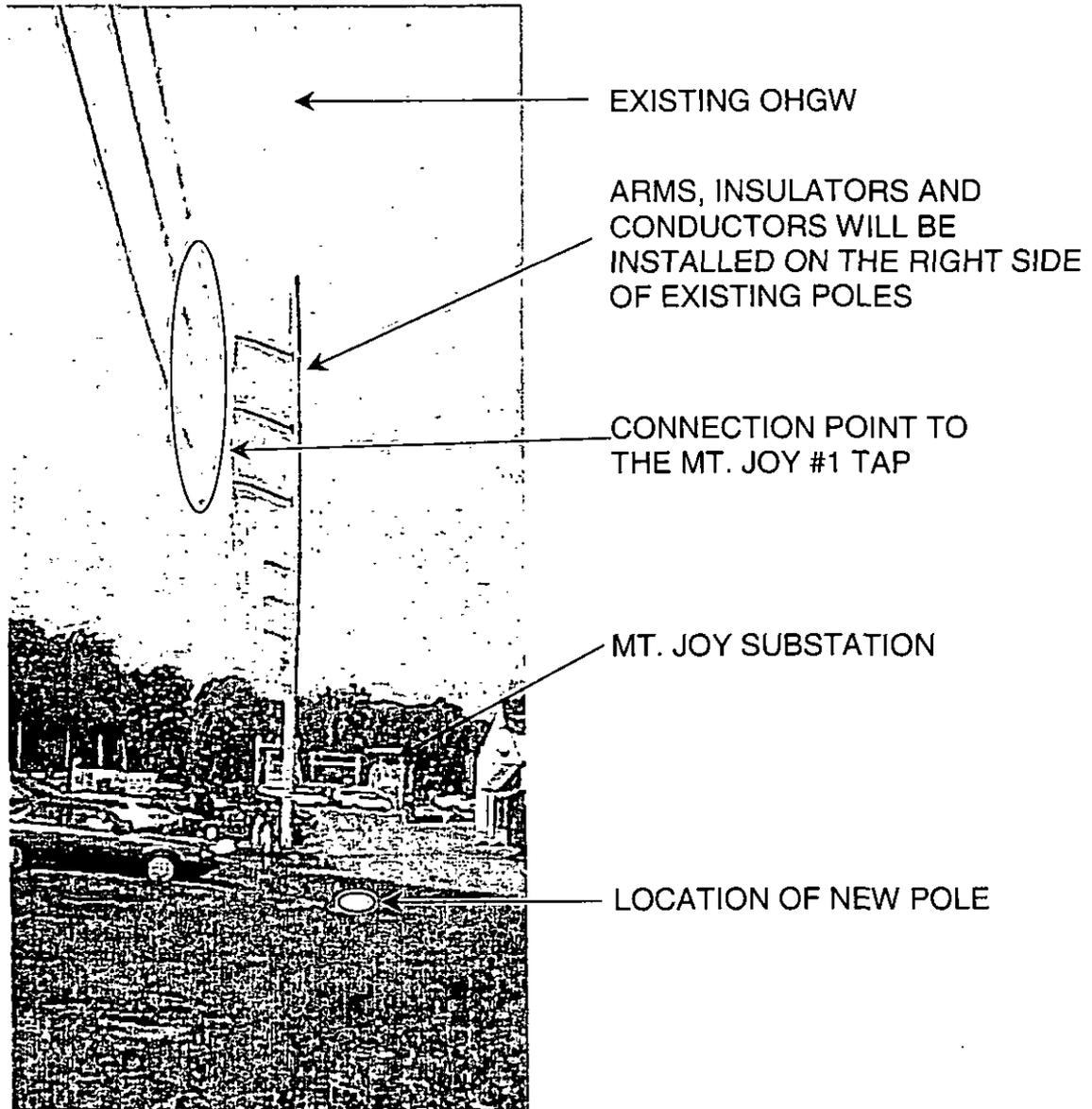
PPL's Magnetic Field Management Program, summarized in Appendix "B," is applied to new and reconstructed transmission line projects. To reduce magnetic field exposures, the program generally prescribes the use of a line design that provides five feet higher ground clearance and reverse phasing of new double circuit lines where it is feasible to do so at low or no cost. The implementation of additional modifications will be considered, provided those modifications can be made at low or no cost.

For this project, reverse phasing will be utilized to reduce magnetic field levels since this can be done at minimal or no cost. Five foot higher ground clearance is not an option because the proposed new circuit will utilize existing poles as previously explained in Section A.

C. RIGHT-OF-WAY STATUS

A small section of additional right-of-way is required to connect the proposed second circuit to the substation. This additional right-of-way has been acquired. The plot plan at the end of Exhibit "B" depicts PPL's previously owned and newly acquired right-of-way. Appendix C identifies the existing property owner within the proposed right-of-way.

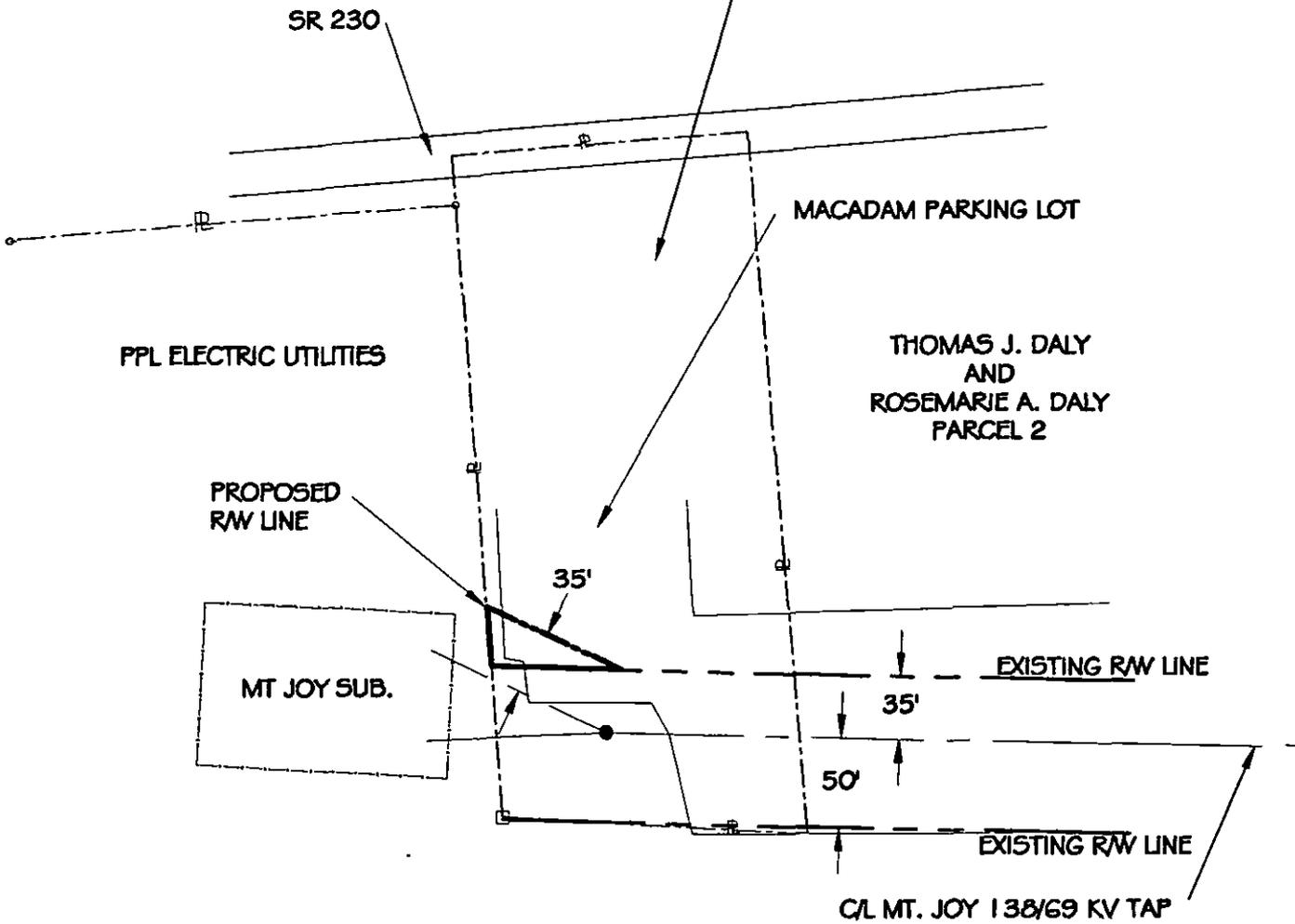
PHOTOGRAPH DEPICTING THE PROPOSED PROJECT



**OVERSIZED
DOCUMENT(S)**

FIGURE 1

THOMAS J. DALY
AND
ROSEMARIE A. DALY
PARCEL 1



APPROVED

REVIEWED BY

REVISION



ACCT- 161589
SCALE - NONE
BY - CDW

PLOT PLAN EXHIBIT
MOUNT JOY #2 138/69 KV TAP

MOUNT JOY TWP. APPROVAL DATE LANCASTER CO., PA.

PPL DRAWING NO. SHEET NO. 1 REV. 0

PLOT PLAN

MF
C
E120382
35460

Exhibit C

EXHIBIT "C"
MOUNT JOY #2 138/69 kV TAP
ENVIRONMENTAL ASSESSMENT

TABLE OF CONTENTS

<u>SECTION</u>	<u>TOPIC</u>	<u>PAGE</u>
A.	INTRODUCTION.....	1
B.	LAND USE.....	1
C.	CULTURAL RESOURCES.....	2
D.	NATURAL FEATURES.....	2
E.	THREATENED AND ENDANGERED SPECIES.....	3

EXHIBIT "C"
MOUNT JOY #2 138/69 kV TAP
ENVIRONMENTAL ASSESSMENT

A. INTRODUCTION

PPL is planning to add a second source to serve its Mount Joy 69-12 kV Substation. The project involves adding arms, insulators and 780 feet of conductor to the existing Mount Joy 138/69 kV Tap. The proposed project is located in the Borough of Mount Joy, Lancaster County.

The project was reviewed with the Borough of Mount Joy and Lancaster County, and neither the Borough nor the County has any objection. A list of involved governmental agencies, municipalities and other public entities is presented in Appendix D.

B. LAND USE

The proposed line will have few, if any impacts. Only one new pole and associated guy wires need to be installed to complete the new circuit. The new pole will be located on existing PPL right-of-way. PPL's Mount Joy 69-12 kV Substation is located in the eastern section of Mount Joy Borough along SR 230. Land use type in the vicinity of the project is mostly commercial. A restaurant borders the project area to the north, commercial land uses and a mobile home park to the east, an Amtrak railroad corridor to the south, and the substation to the west.

No railroads, communication towers, pipelines or other utilities will be affected by the proposed project. The nearest airport is more than 4 miles away and will not be affected.

C. CULTURAL RESOURCES

This project was reviewed with the Pennsylvania Historical and Museum Commission (PHMC). PHMC has determined that due to the absence of historical sites and the *small project size no further archaeological investigations are required.*

The following lists were reviewed for the presence of historical districts and structures in the area:

- National Historic Landmarks in Pennsylvania
- National Register Historic Districts in Pennsylvania
- National Register Individual Properties and Historic Districts in Pennsylvania
- National Register/Listed and Eligible Properties in Pennsylvania

There are several structures of historical interest in the vicinity of the project. Impacts to these historic structures are not expected due to the small scope of the project.

D. NATURAL FEATURES

The proposed project will not affect any unique geological, scenic, or natural areas. No National Natural Landmarks, parks, recreational facilities, or natural areas are located near the project area. Tree clearing is not required. The line will not cross any wetlands or other aquatic resources. PP&L will employ its "Specification for Soil Erosion and Sedimentation Control on Transmission Line Rights-of-Way" as appropriate.

E. THREATENED AND ENDANGERED SPECIES

PPL has coordinated with different state and federal agencies to obtain information regarding endangered and threatened species that could occur in the study area. The agencies report that, except for occasional transient species of wildlife, no threatened or endangered plant or animal life is found in the project area.

Appendices

LIST OF APPENDICES

- APPENDIX A - PPL Design Criteria and Safety Practices
- APPENDIX B - Magnetic Field Management at PPL
- APPENDIX C - List of Property Owners Within the Proposed Right-of-Way
- APPENDIX D - List of Involved Governmental Agencies, Municipalities, and Other Public Entities

APPENDIX A

PPL DESIGN CRITERIA AND SAFETY PRACTICES

The National Electrical Safety Code (NESC) is a set of rules to safeguard people during the installation, operation, and maintenance of electric power lines. The NESC contains the basic provisions considered necessary for the safety of employees and the public. Although it is not intended as a design specification, its provisions establish minimum design requirements. PPL Electric Utilities Corp. (PPL) has developed design specifications and safety rules which meet or surpass all provisions specified by the NESC.

Engineering Design Criteria and Parameters

The NESC includes loading requirements and clearances for the design, construction, and operation of power lines. The "loads" on conductors and supporting structures are the mechanical forces that develop from the weight of the conductors, the weight of ice on the conductors, plus wind pressure on the conductors and supporting structures. Loading requirements are the loads on the conductors and structures that are anticipated assuming certain ice and wind conditions. Loading requirements always contain "safety factors" to allow for unknown or unanticipated contingencies. The clearances and loading requirements contained in the NESC were developed to ensure public safety and welfare.

PPL transmission line design standards meet or surpass the NESC standards. For example, the relative order of grades of construction for conductors and supporting structures is B, C, and N; Grade B being the highest. According to the NESC standards, construction Grades B, C, or N may be used for transmission lines (except at crossings of railroad tracks and limited access highways where Grade B construction is specified). However, PPL designs all of its transmission lines for Grade B construction. The use of Grade B design and construction specifies such things as larger-minimum crossarm dimensions, larger-minimum conductor size, and increased safety factors.

Another example is the design parameters utilized to account for ice and wind loadings on the overhead ground wire (OHGW) and power conductors. The NESC standard ice and wind design magnitudes for the PPL territory are 0.5 inch thickness of radial ice combined with four pounds per square foot horizontal wind pressure (equivalent to 40-mile per hour wind velocity). The conductor sags and tensions used in line designs are the result of various ice and wind combinations, depending on the elevation at the line location and line design voltage. The conductor sags and tensions used in the design of all PPL transmission lines are at least 0.5-inch ice combined with eight pounds wind pressure (equivalent to 57 miles per hour wind velocity). This means that PPL lines are designed to operate safely and reliably during inclement weather even more severe than assumed by the NESC. In addition, PPL transmission lines are designed with more clearance to the ground than required by the NESC. The tables below compare PPL and NESC ground clearances for lines of various voltages.

138 kV

<u>Surface Underneath Conductors</u>	<u>Vertical Clearance to Ground</u>	
	NESC Standard	PPL Design
Roads, streets, alleys	21 Ft.	30 Ft.
Other land traversed by vehicles (such as cultivated field, forest, etc.)	21 Ft.	30 Ft.
Spaces accessible to pedestrians only	17 Ft.	30 Ft.
Railroad tracks	31 Ft.	35 Ft.

230 kV

<u>Surface Underneath Conductors</u>	<u>Vertical Clearance to Ground</u>	
	NESC Standard	PPL Design
Roads, streets, alleys	23 Ft.	32 Ft.
Other land traversed by vehicles (such as cultivated field, forest, etc.)	23 Ft.	32 Ft.
Spaces accessible to pedestrians only	19 Ft.	32 Ft.
Railroad tracks	31 Ft.	36 Ft.

500 kV

<u>Surface Underneath Conductors</u>	<u>Vertical Clearance to Ground</u>	
	NESC Standard	PPL Design
Roads, streets, alleys	28 Ft.	53 Ft.
Other land traversed by vehicles (such as cultivated field, forest, etc.)	28 Ft.	53 Ft.
Spaces accessible to pedestrians only	24 Ft.	53 Ft.
Railroad tracks	38 Ft.	53 Ft.

A relay protection system is used to protect the public safety and welfare as well as equipment and the transmission system. Relay protection is installed for all transmission lines to automatically de-energize the line in the unlikely event that the line or supporting structure fails and the line contacts the ground.

Periodic Maintenance Program on All Transmission Lines

To ensure continued public safety and integrity of service, a periodic maintenance and inspection program is implemented for every transmission line. The program is administered through the use of helicopter patrols, with supplemental foot and structure climbing patrols. A number of helicopter patrols are performed on all lines annually. The

two-man helicopter crew flies parallel, to the left, and above the line so that the observer can look for signs of line damage or deterioration and observe clearances between vegetation and conductors. The observations are included in a report that is forwarded to the appropriate department for corrective action.

Foot and structure climbing patrol programs for a transmission line begin approximately three to five years after the line is energized, unless a helicopter patrol reports a need for earlier action. The frequency of foot patrols varies from once every year to once every several years depending on line type and age.

An assigned foot patroller checks right-of-way conditions, including access roads, bridges, pole washouts, tower footers, vegetation height and clearance to conductors, pole and tower deterioration and, with the use of binoculars, insulators, and condition of hardware. Identified problems are included in a report that is forwarded to the appropriate department for corrective action.

A scheduled line outage is required to perform an overhead patrol because of "hands-on" inspection of hardware. Overhead patrols are conducted on a schedule determined by line age, operating record, and observed general condition. The necessary repairs are also done during the inspection outage.

Personnel Safety Rules

The following are a few of the PPL safety rules that demonstrate the Company's concern for employee safety:

- Work procedures have been developed to allow work to be performed on energized facilities in a safe manner. When lines or apparatus are removed from service to be worked on, the Energy Control Process system is applied. This system provides that a red tag must be physically placed on the control handle of the de-energized equipment. The red tag may be removed only after proper authorization to energize the equipment. Various other tags are used for limited operations and informational purposes. Employees will not apply or remove a tag or change the status of tagged equipment unless authorized.

- Temporary safety grounds are used on de-energized facilities for employee safety during maintenance, construction, or reconstruction work. Safety grounds are wires connecting the de-energized facility to an electrical ground. If the facility should be energized, the safety grounds will divert the current directly to ground and reduce the likelihood of personal injury. The conductor size and attachment clamps of temporary safety grounds must be capable of conducting anticipated fault currents. Rubber gloves, rubber sleeves, and additional rubber protective equipment are used as required when applying or removing temporary safety grounds to or from the lines or apparatus to be grounded. An approved nonconductive working stick of sufficient length to allow workers to maintain the following required minimum clearances is used to test that the line has been de-energized and to apply temporary safety grounds:

<u>Voltage-kV</u>	<u>Minimum Clearance</u>
138	3'-7"
230	5'-3"
500	11'-3"

Before applying grounds, a test is done to confirm that the line is de-energized. The voltage test device is checked before and after use to assure reliability. When ground pins are used to establish proper ground points, they are driven to a depth of not less than four feet as near vertical as possible.

- Poles or structures are inspected and examined for structural integrity before climbing. If there is any reason to believe that a pole is unsafe, it is stabilized before work is performed. Appropriate safety gear in the form of body belts, safety straps, hard hats, gloves, etc., is worn by linemen during line work activity.



**MAGNETIC
FIELD
MANAGEMENT
PP&L, Inc.**

APPENDIX B

OCTOBER 1998

TABLE OF CONTENTS

	Page
I. Introduction	5
II. Development of PP&L, Inc.'s Magnetic Field Management Program	9
III. Variables Which Affect Magnetic Fields	9
A. Effect of Phase Current on Magnetic Fields	9
B. Effect of Conductor Configuration on Magnetic Fields	10
C. Effect of Distance from the Magnetic Field Source	10
IV. Summary of PP&L, Inc.'s Magnetic Field Management Program	11
V. Magnetic Field Management Program Guidelines	12
A. Overhead Lines	12
1. New or Rebuilt Transmission Lines	12
2. Reconductoring or Adding Additional Circuits to Existing Transmission Lines	15
3. Distribution Lines	15
B. Underground Transmission Lines	16



INTRODUCTION

At PP&L, Inc., magnetic field management means investigating and implementing methods at low or no cost to reduce magnetic fields in new or rebuilt transmission and distribution lines. This document explains PP&L, Inc.'s Magnetic Field Management Program, which is part of PP&L, Inc.'s larger Electric and Magnetic Fields ("EMF") policy.

PP&L, Inc.'s View

Some people are worried that electric and magnetic fields are harming their health. Others think the scientific research does not show a problem at all, and still others believe there's just too much scientific uncertainty to draw any conclusions.

Here's what we do know now. Various panels of scientists that have reviewed the EMF research generally have drawn two main conclusions. First, the large body of evidence does not demonstrate that EMF are harmful. Second, additional research is recommended to explore questions raised in some studies.

Given these conclusions, PP&L, Inc. is taking a reasoned approach in responding to the EMF issue. PP&L, Inc.'s approach to the EMF issue consists of five elements:

- Providing EMF information to customers and employees
- Providing magnetic field measurements
- Establishing and implementing a magnetic field management program to reduce magnetic fields in new or rebuilt facilities when it can be done at no, or low, cost
- Integrating EMF in the public involvement process that PP&L, Inc. undertakes in the siting of transmission lines
- Have supported additional research

EMF Are All Around Us

Electric and magnetic fields occur in nature and in all living things. The earth, for instance, has a magnetic field, which makes the needle on a compass point north.

Electric fields and magnetic fields of a different type also surround every wire that carries electricity. In everyday life, these EMF arise from several basic sources, including power lines, electrical appliances, home and building wiring, other utility lines and cables, and currents flowing on water pipes. Though they often occur together, EMF are made up of two separate components:

Electric Fields

Electric fields are produced by the voltage — or electrical pressure — on a wire. The higher the voltage, the higher the electric field. As long as a wire is energized — has voltage present — an electric field is present (see figure 1). In other words, an appliance, or an electric power line, doesn't actually have to be turned on to create an electric field. It just has to be plugged in. Electric fields diminish with distance and can be blocked or partially shielded by objects such as trees and houses.

Magnetic Fields

Magnetic fields are created by the current or flow of electricity through a wire. Generally speaking, the higher the current, the higher the magnetic field. Because they only occur when current is flowing, magnetic fields are present only when the power is turned on (see figure 1). Magnetic fields also diminish with distance, but — unlike electric fields — are not blocked by common objects. In recent years, public and scientific interest has turned toward the magnetic field component of EMF because of some scientific studies regarding these fields.

Figure 1

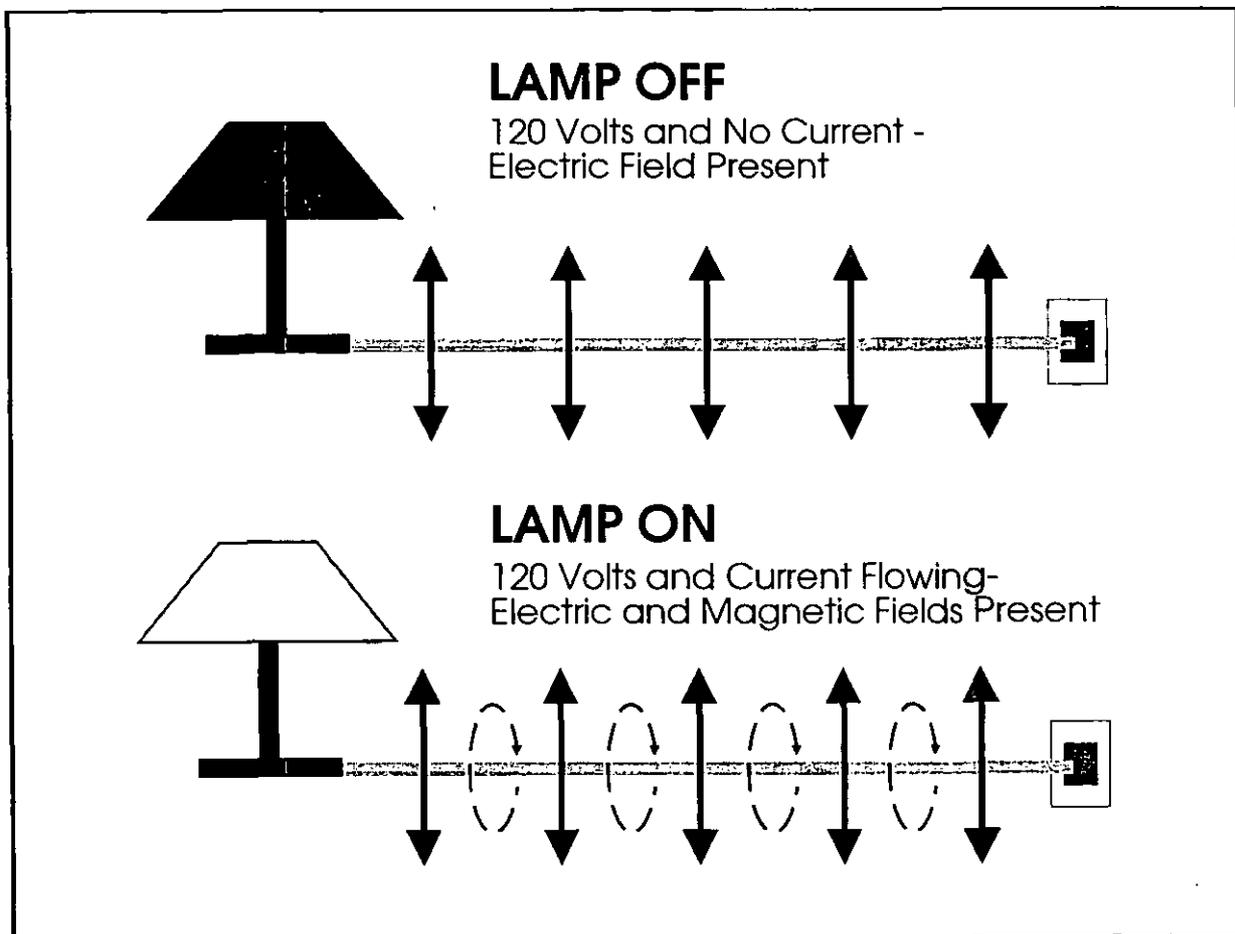


Figure 2

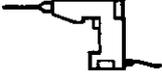
Magnetic field strengths decrease with distance Magnetic fields are measured in milligauss		Source: "EMF In Your Environment", U.S. Environmental Protection Agency 1992		
		At 6 inches	At 1 foot	At 2 feet
Clothes dryer		2 to 10	* to 3	*
Microwave oven		100 to 300	1 to 200	1 to 30
Toaster		5 to 20	* to 7	*
Power drill		100 to 200	20 to 40	3 to 6
Can opener		500 to 1500	40 to 300	3 to 30
Mixer		30 to 600	5 to 100	* to 10
Hair dryer		1 to 700	* to 70	* to 10
Color television		Data not available	* to 20	* to 8

FIGURE 2 * The magnetic field measurement at this distance from the operating appliance could not be distinguished from background measurements taken before the appliance had been turned on.

Measuring Magnetic Fields

Magnetic fields usually are measured in a unit called a milligauss. Magnetic field levels found in the living areas of homes typically range from less than 1 milligauss to about 4 milligauss according to the U.S. Environmental Protection Agency. They can be higher in some cases. The levels next to appliances can exceed 1,000 milligauss (1 gauss). Figures 2 and 3 show how the strength of the field falls off as you move away from the source, just as the heat of a campfire grows weaker as you walk away from it.

For overhead power lines, the strength of the magnetic fields is dependent upon a number of factors that will be explained later. Those factors produce a magnetic field that drops off rapidly as you move away from the power line.

Figure 3

Sample Magnetic Field Levels in Milligauss				
Type of Overhead Power Line	Distance from the line			
	Under the line	50 ft.	100 ft.	200 ft.
220 kV and 500 kV	5-400	5-250	1-75	0.5-20
69 kV and 138 kV	3-80	0.5-25	0.1-10	0.1-3
12 kV and below	0.4-20	0.1-1	-	-

The magnetic field values provided in this table represent a general range of values associated with the types of overhead power lines listed and are provided for illustration. There will be circumstances in which there will be magnetic field levels above or below the range of values provided due to variations in such factors as height of the wires, current flow and so on.

DEVELOPMENT OF PP&L, INC.'S MAGNETIC FIELD MANAGEMENT PROGRAM

One element of our response to EMF concerns expressed by some of our customers is PP&L, Inc.'s Magnetic Field Management Program. The program was initiated in March 1991 because PP&L, Inc. believes it makes good sense, as a matter of policy, to respond to the concerns expressed by some of our customers and to reduce magnetic fields in new and rebuilt facilities where it can be done with either no-cost or low-cost design changes.

This document updates the original program which has been revised several times since 1991. These guidelines were developed by PP&L, Inc.'s EMF Working Group.

VARIABLES THAT AFFECT MAGNETIC FIELDS

Magnetic fields from transmission and distribution lines are a function of a number of design variables. The following parameters affect the magnetic field levels produced by transmission and distribution lines:

- Current
- Height of conductors above ground
- Configuration of conductors
- Distance from the line

EFFECT OF PHASE CURRENT ON MAGNETIC FIELDS

At power frequencies (i.e. 60 hertz), the magnetic field level is a function of the current or flow of electricity through a wire. Keeping all other parameters the same, the magnetic field is proportional to the current. Hence, if the current increases by 25 percent, the resulting magnetic field level will increase by 25 percent.

The overall load current on any line varies with the demand for power. It's usually highest during daytime hours and lowest at night. There also are weekly, monthly, seasonal and yearly variations.

The difference in the currents between each phase in a multiphase line also can affect the magnetic field. This difference is called phase unbalance. For a constant load, a statistical analysis of this phase unbalance can be made to determine its effect on the magnetic field. Close to the line, there is very little effect. However, the phase unbalance slows the rate at which the magnetic field decreases with distance from the line.

EFFECT OF CONDUCTOR CONFIGURATION ON MAGNETIC FIELDS

In the transmission and distribution of power, utilities like PP&L, Inc. presently use both three-phase and single-phase lines. Each phase on a three-phase power line has either a single conductor or a bundle of two or more conductors. In a three-phase system, the ground-level magnetic field is a result of the fields produced by the currents in each of the phases. Placing the three phases as close together as possible (compaction) creates some field cancellation, and the ground-level magnetic field is reduced. However, appropriate phase separation is required for the reliable operation of the line. In addition, the arrangement of the phases can create some field cancellation and reduction of the ground-level magnetic field.

EFFECT OF DISTANCE FROM THE MAGNETIC FIELD SOURCE

Magnetic field strength diminishes with the vertical and lateral distances from the magnetic field source. Increasing the height of the conductors above ground is useful for magnetic field reduction at ground level, but may result in increased structure costs and increased aesthetic impact of the structures. Another possible method of increasing the distance to the magnetic field source is to increase the right-of-way requirements. By keeping buildings off increased rights of way, thereby requiring the public to live and work further away from lines, exposure to magnetic fields produced by the lines can be reduced. Increases in right of way are not always practical and may increase costs significantly, however.

SUMMARY OF PP&L, INC.'S MAGNETIC FIELD MANAGEMENT PROGRAM

Under its Magnetic Field Management Program, PP&L, Inc. has changed the way it builds and rebuilds some of its transmission and distribution lines. These design changes reduce magnetic field levels (assuming balanced circuit loadings and phase currents) by up to 69 percent in most of the company's new transmission lines. These guidelines now are being applied to new and reconstructed transmission facilities, based on this program.

The distribution component of the program focuses on 12 kV lines, the company's standard distribution voltage. It concentrates on the three-phase, primary 12 kV lines, since these are the most heavily loaded facilities and often are located in densely populated areas. The guidelines in this program are being applied to these three-phase, primary 12 kV lines.

A maximum 3-5 percent change in estimated cost was used as the limit for the guidelines since this value is consistent with low cost, is within estimating accuracy and is likely to have little impact on overall line costs.

The magnetic field calculations used in this document for the design of PP&L, Inc.'s overall magnetic field management plan assume balanced load conditions among the phases and a fixed level of current, not necessarily representative of specific transmission or distribution lines. These levels were calculated using the Electric Power Research Institute's ENVIRO computer program. Under actual operating conditions, the magnetic field levels that result may vary due to such things as actual load per circuit, overall current on each phase conductor and the electrical configuration and operation of each line.

MAGNETIC FIELD MANAGEMENT PROGRAM GUIDELINES

The guidelines for magnetic field management are noted below, with discussion points for each.

OVERHEAD LINES

New or Rebuilt Transmission Lines

1. Balance transmission circuit loads and phase currents as much as possible.

- PP&L, Inc. should continue to make every effort to balance loadings between the two circuits of a double circuit line when planning new or rebuilt facilities to maximize the effects of reverse phasing.
- PP&L, Inc. should continue the practice of balancing single-phase loads across the three phases of the distribution system. (Unbalanced phase currents on the distribution system are reflected through to the transmission system.)
 - Unbalanced phase currents result in higher magnetic fields that do not drop off as quickly with distance as do the fields resulting from balanced phase currents.
 - For a 5 percent phase current unbalance, the magnetic field 50 feet from the centerline of a single circuit 138 kV line could be more than twice the value than if the same line had balanced phase circuits.
 - Balanced phase currents on each three-phase distribution circuit also reduce magnetic fields from the distribution circuits themselves. In addition, they reduce magnetic fields on the transmission system from which the distribution system circuits are supplied and connected through substations.
 - Apart from magnetic field considerations, balanced phase currents on each three-phase distribution circuit also reduce line losses and improve the system voltage.

2. Continue with the present practice of using long-span construction as the PP&L, Inc. 138/69 kV standard.

- Structure designs for short-span and long-span construction are illustrated on charts I and II, respectively.
- Short-span design does not significantly reduce magnetic fields when compared to long-span design even though it is more compact than long-span design. Comparison of the magnetic field values from chart III indicates essentially the same values. Therefore, short-span design should not be used solely to reduce magnetic fields.
- PP&L, Inc. will continue to use long-span construction for 138/69 kV double-circuit lines and for single-circuit/future-double-circuit lines.
- For single-circuit/future-double-circuit lines, PP&L, Inc. will continue to install two conductors

on the top positions and one in the middle position as shown in chart IV.

- This arrangement minimizes magnetic fields as shown in chart V by placing the three initial conductors higher on the structure, which increases the ground clearances, and by placing the conductors in a triangular configuration.

3. Compact design structures are not a low-cost alternative and should be used for magnetic field reduction only in special applications.

Chart VI illustrates the compact design structure.

- The compact design increases the initial installation costs by 79 percent when compared to the long-span design but reduces the magnetic field from 9 mG to 3 mG (about 67 percent) at the edge of the 100-foot-wide right of way as shown on chart III.

4. Reverse phase new or rebuilt double-circuit transmission lines for all voltage levels.

- Reverse phasing was adopted by PP&L, Inc. in March 1991 for double-circuit 138/69 kV transmission lines and in April 1992 for all other double circuit transmission lines. Reverse phasing is shown in chart VII. Reverse phasing will reduce the magnetic fields when the current flow on both circuits is in the same direction. Calculated values contained here are based on balanced and equal phase currents on both circuits.
 - Reverse phasing reduces the magnetic field of a double circuit 138 kV single pole transmission line from 29 mG to 9 mG (about 69 percent) at the edge of the 100-foot-wide right of way as shown on chart III.
 - Reverse phasing reduces the magnetic field of a double circuit 230 kV single pole transmission line from 49 mG to 16 mG (about 67 percent) at the edge of the 150-foot-wide right of way as shown on chart VIII.
 - Reverse phasing reduces the magnetic field of a double-circuit 500 kV single pole transmission line from 37 mG to 21 mG (about 43 percent) at the edge of the 200-foot-wide right of way as shown on chart IX.
- When new or rebuilt double-circuit lines require tapping existing double-circuit lines, PP&L, Inc. will review the existing lines to determine if reverse phasing can be provided at low cost.
- Computer modeling is required to develop the optimum phasing and overall conductor arrangements for lines added to, or rebuilt in, multiple-line corridors.
 - Merely adding a reverse-phase double-circuit line to an existing transmission line corridor or reverse phasing a rebuilt line in the multiple-line corridor will not necessarily produce lower magnetic field levels at the edge of the corridor right of way.
 - The corridor must be computer modeled with all the lines, existing phase conductor locations and currents. Then, magnetic field calculations must be made varying the phase arrangements of the new or reconstructed line to determine the appropriate phasing arrangement.
 - Current flow direction on a line also must be considered. For example, a reverse-phased

line should have the current flowing in the same direction on both circuits. If the current flow is in the opposite direction for one circuit, reverse phasing will not produce the lowest magnetic field and another phase arrangement that produces lower fields may need to be utilized.

5. Increase the minimum ground clearance for all new transmission lines.

138/69 kV Transmission Lines

- Increasing the minimum line design ground clearance from 25 feet to 30 feet may add up to about 5 percent to the installed cost of a new double-circuit single pole 138/69 kV line. For a given project, such cost may be substantially less, however. In fact, PP&L, Inc. frequently uses higher-than-minimum ground clearances due to such features as road crossings, line crossings and site-specific terrain. With long-span reverse-phase design, the magnetic field is reduced from 9 mG to 7 mG (about 22 percent) at the edge of a 100-foot-wide right of way as shown in chart X.
- In the actual design of transmission lines to include higher minimum ground clearances, there may be limited segments (such as highway crossings, severe slopes and transmission line crossing locations) where National Electrical Safety Code (NESC) minimum ground clearances may need to be used. The NESC minimum ground clearances are less than the increased ground clearance discussed previously.

230 kV Transmission Lines

- Increasing the minimum line design ground clearances from 27 feet to 32 feet may add up to about 5 percent to the cost of a single-circuit single-pole line (current standard). For a given project, such cost may be substantially less, however. In fact, PP&L, Inc. frequently uses higher-than-minimum ground clearances due to such features as road crossings, line crossings and site-specific terrain. By increasing the clearances, the magnetic field is reduced from 30 mG to 28 mG (about 7 percent) at the edge of a 150-foot-wide right of way.
- Increasing clearances from 27 feet to 32 feet could theoretically add up to about 2.8 percent to the cost of a double-circuit single-pole line (current standard) and reduce the magnetic field of a reverse-phase line from 16 mG to 15 mG (about 6 percent) at the edge of a 150-foot-wide right of way. Chart XI is a summary of this data.
- Studies are required for each new 230 kV line to determine optimum structure types, ground clearances, configurations and designs to reduce field levels. Such studies could include analysis of reduction measures such as additional minimum ground clearances, increasing conductor tensions, using reduced phase spacing (a "Delta" configuration on a single-circuit line), installing the second circuit initially, and/or adding a second set of conductors that are reverse phased and operated in parallel with the first set (bundled/split phase).

500 kV Transmission Lines

- Increasing ground clearances from 33 feet to 53 feet may add up to about 4.5 percent to the

cost of a single-circuit "H-frame" line (current standard). For a given project, such cost may be substantially less, however. In fact, PP&L, Inc. frequently uses higher-than-minimum ground clearances due to such features as road crossings, line crossings and site-specific terrain. By increasing the clearances, the magnetic field is reduced from 42 mG to 35 mG (about 17 percent) at the edge of a 200-foot-wide right of way.

- Increasing ground clearances from 33 feet to 53 feet could theoretically add up to 2.8 percent to the cost of a double-circuit "H-frame" line (current standard) and reduces the magnetic field of a reverse-phase line from 21 mG to 16 mG (about 24 percent) at the edge of a 200-foot-wide right of way. Chart XII is a summary of this data.
- Studies are required for each new 500 kV line to determine optimum structure types, ground clearances, configurations and designs to reduce field levels. Such studies could include analysis of reduction measures such as additional minimum ground clearances, increasing conductor tensions, using reduced-phase spacing (a "Delta" configuration on a single circuit line), installing the second circuit initially, and/or adding a second set of conductors that are reverse phased and operated in parallel with the first set (bundled/split phase).

RECONDUCTORING OR ADDING ADDITIONAL CIRCUITS TO EXISTING TRANSMISSION LINES

When reconductoring or adding additional circuits to existing transmission lines, PP&L, Inc. will evaluate low-cost or no-cost options for magnetic field management on a case-by-case basis.

When reconductoring existing transmission lines or adding additional circuits, low-cost alternatives may not exist; however, the following steps will be taken:

- For a single-circuit line, the use of a Delta arrangement or other modifications on the existing structure, with reduced-phase spacing, will be evaluated.
- For double-circuit lines, application of reverse phasing may reduce the magnetic field under the line and within the right of way and will be evaluated.
- For single- and double-circuit lines, evaluate using higher conductor tensions that can increase the minimum line design ground clearance.

Distribution Lines

At the 12 kV distribution level, new main three-phase lines will continue to be constructed with five feet of additional ground clearance.

- Main lines are the most heavily loaded sections of a distribution line and therefore have the highest magnetic fields associated with them.
- Increasing the ground clearance by five feet reduces the magnetic field under the line from 14 mG to 11 mG using the standard eight-foot crossarm design. These values are based on increasing pole heights from 45 feet to 50 feet and a typical operating current of 300 amps per phase.

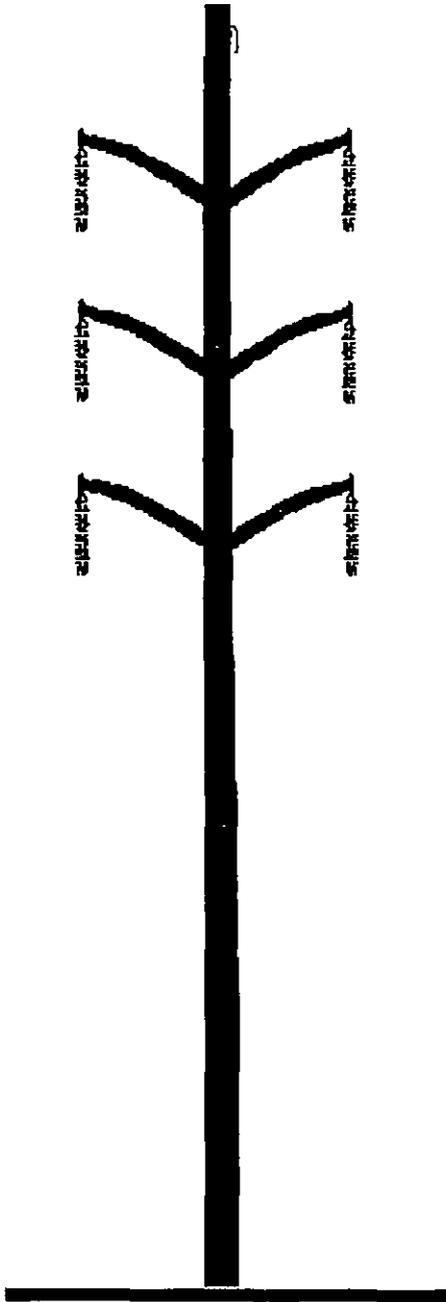
- Chart XIII is a summary of this data. Increasing ground clearance by five feet could theoretically add about 5 percent to the cost of a typical distribution line.

UNDERGROUND TRANSMISSION LINES

If underground transmission lines are required due to environmental or land use factors or restrictions on available clearances, PP&L, Inc. will evaluate options for magnetic field management techniques on a case-by-case basis.

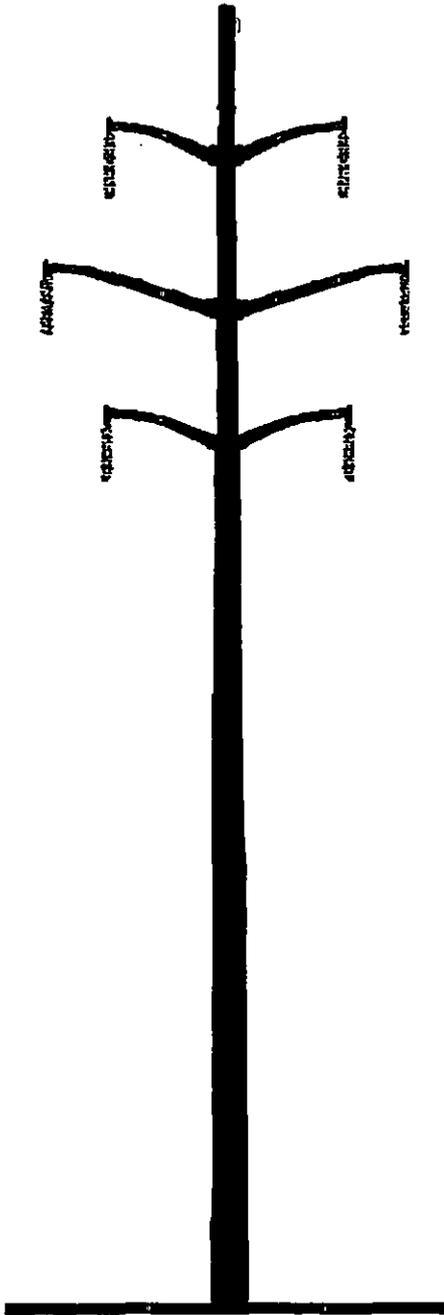
- The phase arrangement that produces the lowest field will be determined.
- The depth of burial of the line will be determined considering the cost of excavation and the location of other buried utilities in the area.
- The use of steel pipe ferromagnetic shielding that reduces magnetic fields will be evaluated.

Short-Span Construction



- **More compact design**
- **Should not be used solely to reduce magnetic fields**
- **Typical conductor data:**
 - 1 3/8" HS steel overhead ground wire - 7.3 feet sag
 - 6-556.5 KCMIL 24/7 ACSR power conductors - (PARAKEET) 10.0 feet sag
 - Average span - 400 feet

Long-Span Construction Remains PP&L, Inc. 138kV Standard



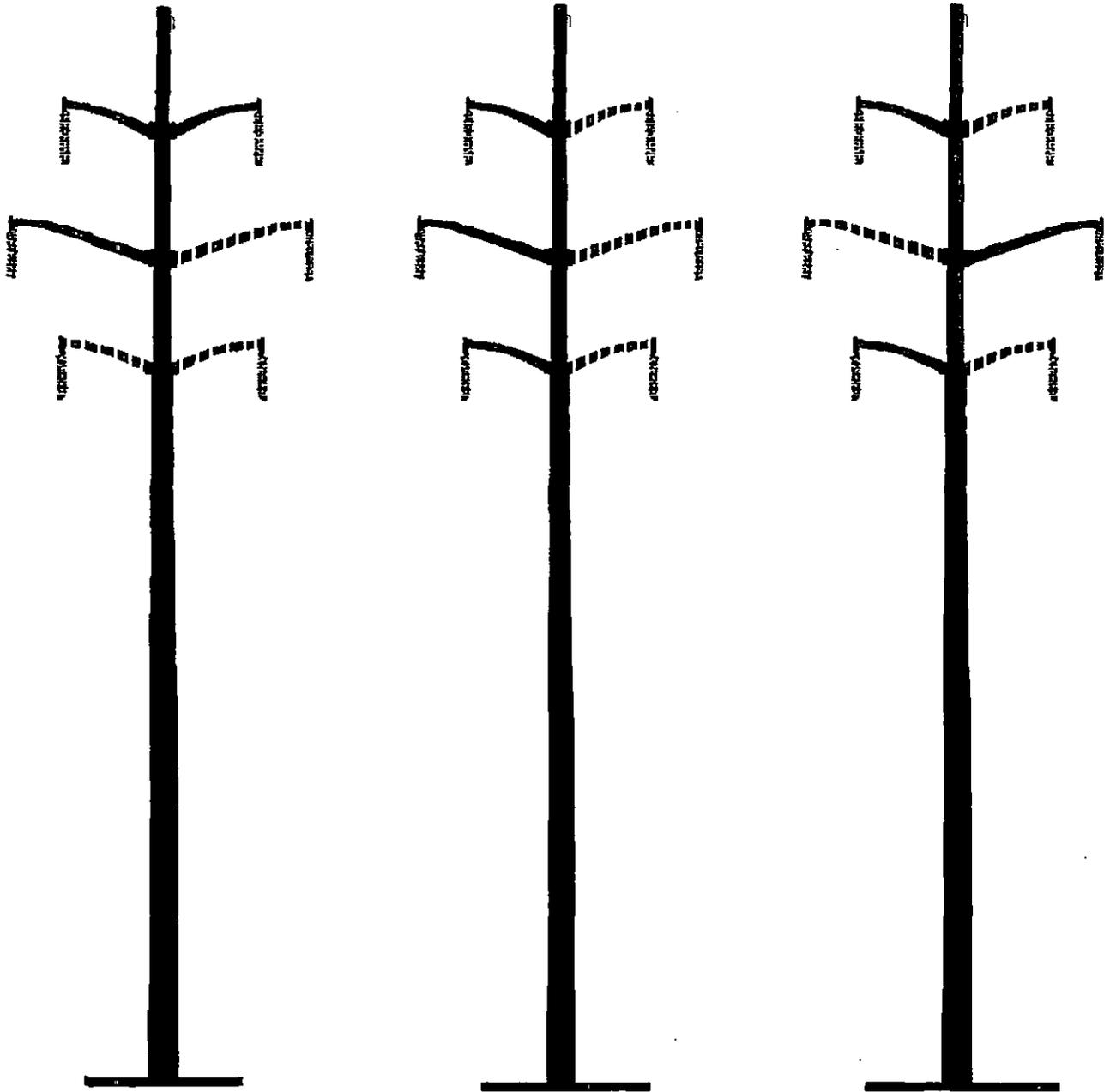
- Lower cost alternative
- Reduces magnetic fields due to higher structures
- Typical conductor data:
 - 1 3/8" HS steel overhead ground wire - 17.3 feet sag
 - 6-556.5 KCMIL 24/7 ACSR power conductors - (PARAKEET) 23.0 feet sag
 - Average span - 600 feet

**138/69 kV REVERSE-PHASE TRANSMISSION LINES
CALCULATED MAGNETIC FIELDS AT 400 AMPERES**

TYPE CONSTRUCTION	MAGNETIC FIELD IN MILLIGAUSS AT THE EDGE OF THE RIGHT OF WAY
SHORT SPAN (CHART I)	30
SHORT SPAN (REVERSE PHASE)	8
LONG SPAN (CHART II)	29
LONG SPAN (REVERSE PHASE)	9
COMPACT (CHART VI)	14
COMPACT (REVERSE PHASE)	3

The edge of right of way is 50 feet from the line centerline.
 The 400 ampere phase current is balanced between phases.
 Calculations are based on a minimum ground clearance of 25 feet.
 LONG SPAN, SHORT SPAN and COMPACT are double-circuit lines.

Typical Single-Circuit Structure Designs



Top/Middle

Vertical

Top/Middle/Bottom

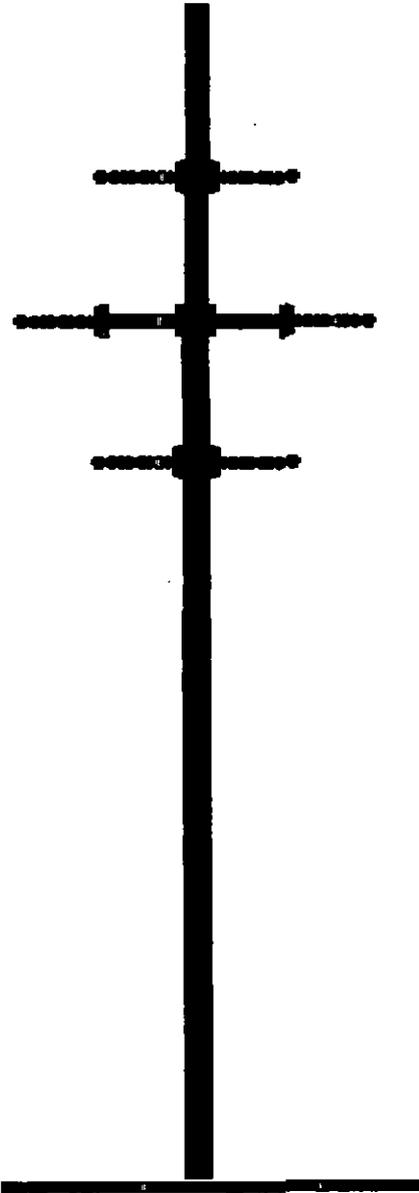
————— initial single circuit
- - - - - future second circuit

**138/69 kV SINGLE CIRCUIT TRANSMISSION LINES
CALCULATED MAGNETIC FIELDS AT 400 AMPERES**

TYPE CONSTRUCTION	MAGNETIC FIELD IN MILLIGAUSS AT THE EDGE OF THE RIGHT OF WAY
TOP/MIDDLE/BOTTOM	20
VERTICAL	17
TOP/MIDDLE	12

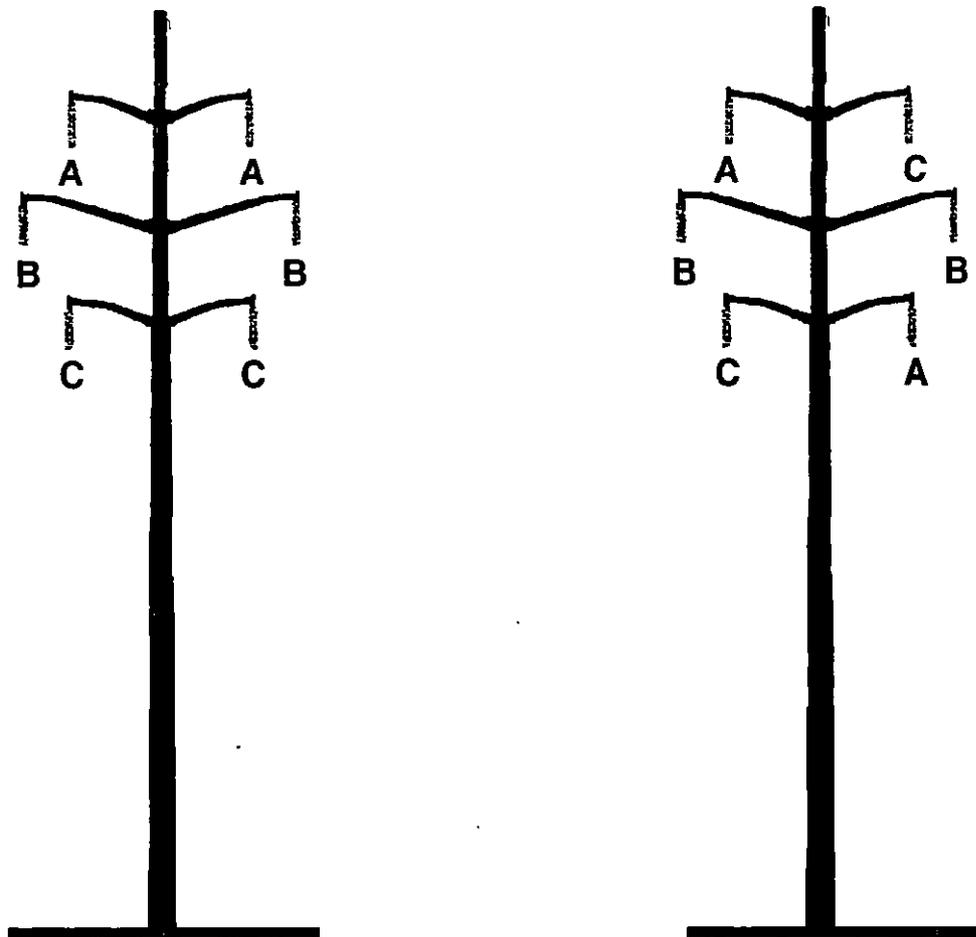
The edge of right of way is 50 feet from the line centerline.
The 400 ampere phase current is balanced between phases.
Calculations are based on a minimum ground clearance of 25 feet.

Compact Design Structure



- **Minimize magnetic fields due to compact design**
- **Not a low-cost alternative**
- **Typical conductor data:**
 - 1 3/8" HS steel overhead ground wire - 9.0 feet sag
 - 6-556.5 KCMIL 24/7 ACSR power conductors - (PARAKEET) 9.0 feet sag
 - Average span -300 feet

Reverse Phasing of Double-Circuit Transmission Lines



From: → → → → To:

Reverse phasing also can be one of the following phase arrangements:

A	B		B	A		B	C		C	A		C	B
C	C	or	C	C	or	A	A	or	B	B	or	A	A
B	A		A	B		C	B		A	C		B	C

CHART VIII

**230 kV REVERSE-PHASE TRANSMISSION LINES
CALCULATED MAGNETIC FIELDS AT 800 AMPERES**

TYPE CONSTRUCTION	MAGNETIC FIELD IN MILLIGAUSS AT THE EDGE OF THE RIGHT OF WAY
DOUBLE CIRCUIT POLE	49
DOUBLE CIRCUIT POLE (REVERSE-PHASE)	16

The edge of right of way is 75 feet from the line centerline.
The 800 ampere phase current is balanced between phases.
Calculations are based on a minimum ground clearance of 27 feet.

CHART IX

**500 kV REVERSE-PHASE TRANSMISSION LINES
CALCULATED MAGNETIC FIELDS AT 1100 AMPERES**

TYPE CONSTRUCTION	MAGNETIC FIELD IN MILLIGAUSS AT THE EDGE OF THE RIGHT OF WAY
DOUBLE CIRCUIT POLE	37
DOUBLE CIRCUIT POLE (REVERSE PHASE)	21

The edge of right of way is 100 feet from the line centerline.
The 1,100 ampere phase current is balanced between phases.
Calculations are based on a minimum ground clearance of 33 feet.

**INCREASED 138/69 kV MINIMUM GROUND CLEARANCE
CALCULATED MAGNETIC FIELDS AT 400 AMPERES**

TYPE CONSTRUCTION	MINIMUM GROUND CLEARANCE FEET	MAGNETIC FIELD IN MILLIGAUSS AT THE EDGE OF THE RIGHT OF WAY
SINGLE CIRCUIT TOP/MIDDLE	25	12
SINGLE CIRCUIT TOP/MIDDLE	30	10
LONG SPAN	25	29
LONG SPAN	30	26
LONG SPAN (REVERSE PHASE)	25	9
LONG SPAN (REVERSE PHASE)	30	7

The edge of right of way is 50 feet from the line centerline.
The 400 ampere phase current is balanced between phases.

**INCREASED 230 kV MINIMUM GROUND CLEARANCE
CALCULATED MAGNETIC FIELDS AT 800 AMPERES**

TYPE CONSTRUCTION	MINIMUM GROUND CLEARANCE FEET	MAGNETIC FIELD IN MILLIGAUSS AT THE EDGE OF THE RIGHT OF WAY
SINGLE CIRCUIT TOP/MIDDLE	27	30
SINGLE CIRCUIT TOP/MIDDLE	32	28
DOUBLE CIRCUIT POLE	27	49
DOUBLE CIRCUIT POLE	32	46
DOUBLE CIRCUIT POLE (REVERSE PHASE)	27	16
DOUBLE CIRCUIT POLE (REVERSE PHASE)	32	15

The edge of right of way is 75 feet from the line centerline.
The 800 ampere phase current is balanced between phases.

**INCREASED 500 kV MINIMUM GROUND CLEARANCE
CALCULATED MAGNETIC FIELDS AT 1,100 AMPERES**

TYPE CONSTRUCTION	MINIMUM GROUND CLEARANCE FEET	MAGNETIC FIELD IN MILLIGAUSS AT THE EDGE OF THE RIGHT OF WAY
SINGLE CIRCUIT "H" STRUCTURE	33	42
SINGLE CIRCUIT "H" STRUCTURE	53	35
DOUBLE CIRCUIT POLE	33	37
DOUBLE CIRCUIT POLE	53	31
DOUBLE CIRCUIT POLE (REVERSE PHASE)	33	21
DOUBLE CIRCUIT POLE (REVERSE PHASE)	53	16

The edge of right of way is 100 feet from the line centerline.
The 1,100 ampere phase current is balanced between phases.

**12 kV DISTRIBUTION LINES
CALCULATED MAGNETIC FIELDS AT 300 AMPERES**

TYPE CONSTRUCTION	POLE HEIGHT FEET	MAGNETIC FIELD IN MILLIGAUSS*	
		AT CENTERLINE	AT 30 FEET FROM CENTERLINE
STANDARD CROSSARM	45	14	7
STANDARD CROSSARM	50	11	6

* Field level under the line at mid-span based on 300 amps, balanced loading, one meter above ground level.

APPENDIX C

LIST OF PROPERTY OWNERS WITHIN THE PROPOSED RIGHT-OF-WAY

1. Thomas J. Daly
Rosemarie A. Daly
740 East Main Street
Mount Joy, PA 17522-9502

APPENDIX D

LIST OF INVOLVED GOVERNMENTAL AGENCIES, MUNICIPALITIES AND OTHER PUBLIC ENTITIES

1. Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Division for Archaeology and Protection
P.O. Box 1026
Harrisburg, Pennsylvania 17108-1026
Attn: Mr. Kurt W. Carr, Chief

2. Pennsylvania Department of Transportation
Commonwealth Keystone Building
400 North Street, 8th Floor
Harrisburg, Pennsylvania 17120
Attn: The Honorable Allen D. Biehler, P.E., Secretary

3. Department of Environmental Protection
P.O. Box 2063
Market Street State Office Building
Harrisburg, Pennsylvania 17105-2063
Attn: Office of Field Operations

4. Lancaster County Commissioners
Office of the County Commissioners
50 North Duke Street
P. O. Box 83480
Lancaster, PA 17608-3480
Attn: Mr. Howard "Pete" Shaub, Chair

5. Lancaster County Planning Commission
50 North Duke Street
P. O. Box 83480
Lancaster, PA 17608-3480
Attn: Mr. Ronald Bailey, Director

6. Mount Joy Borough Council
21 East Main Street
Mount Joy, PA 17552
Attn: Mr. Donald Zeller, President

7. Mount Joy Borough Planning Commission
21 East Main Street
Mount Joy, PA 17552
Attn: Mr. Mark Hiester, Chair

COMMONWEALTH OF PENNSYLVANIA

DATE: August 5, 2004

SUBJECT: A-110500 F0348

TO: Bureau of Fixed Utility Services

FROM:  James J. McNulty, Secretary

Letter of Notification of PPL Electric Utilities Corporation

We attach hereto a copy of the Letter of Notification of PPL Electric Utilities Corporation, which has been captioned and docketed to the above number.

May we have a report prepared by your Bureau for Public Meeting.

Attachment

cc: Law Bureau

jih

DOCUMENT
FOLDER
DOCKETED
AUG 05 2004

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA PUBLIC UTILITY COMMISSION
P. O. BOX 3265, HARRISBURG PA 17105-3265

IN REPLY PLEASE
REFER TO OUR FILE
Secretary
717-772-7777

AUGUST 5, 2004

A-110500 F0348

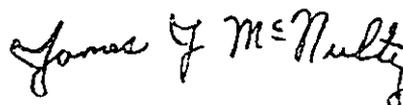
MORGAN LEWIS & BOCKIUS LLP
ANTHONY C. DECUSATIS, COUNSEL
1701 MARKET STREET
PHILADELPHIA PA 19103-2921

Dear Mr. DeCusatis:

Receipt is acknowledged of the Letter of Notification of PPL Electric Utilities Corporation, which has been captioned and docketed to the above number.

This matter will receive the attention of the Commission and you will be advised of any further necessary procedure.

Sincerely,



James J. McNulty
Secretary

JJM: jih

DOCUMENT
FOLDER
Docketed
AUG 05 2004

Morgan, Lewis & Bockius LLP
1701 Market Street
Philadelphia, PA 19103-2921
Tel: 215.963.5000
Fax: 215.963.5001
www.morganlewis.com

Morgan Lewis
COUNSELORS AT LAW

Anthony C. DeCusatis
215.963.5034
adecusatis@morganlewis.com

October 15, 2004

VIA OVERNIGHT MAIL

James J. McNulty, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor
Harrisburg, PA 17120

DOCUMENT
FOLDER

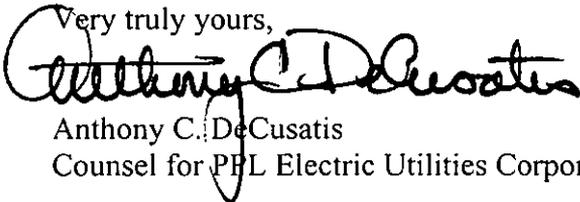
Re: **Letter of Notification of PPL Electric Utilities Corporation Filed Pursuant to 52 Pa. Code Chapter 57 Subchapter G With Respect to the Mount Joy #2 138/69 kV Tap Line to be Constructed in the Borough of Mount Joy, Lancaster County**

Dear Secretary McNulty:

A-110500 F0348

Enclosed for filing please find an original and three copies of the Proof of Publication for the Lancaster Intelligencer Journal and the Lancaster New Era (the paper have common ownership and provided one affidavit for both), newspapers of general distribution in the project area, of the Public Notice for the above-referenced Letter of Notification. Publication occurred twice during two consecutive weeks in each paper.

Very truly yours,


Anthony C. DeCusatis
Counsel for PPL Electric Utilities Corporation

Enclosure

cc: Darren Gill (w/ encl) (via overnight mail)

REC-11

OCT 15 2004

PA PUBLIC UTILITY COMMISSION
SECRETARY'S OFFICE

①

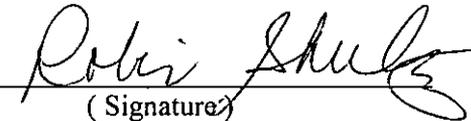
PROOF OF PUBLICATION NOTICE IN

State of Pennsylvania }
 }ss:
County of Lancaster }

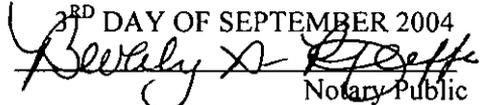
Robin Shultz of the County and State aforesaid, being duly sworn, deposes and says that the Intelligencer Journal-New Era a daily newspaper of general circulation published at Lancaster, County and State aforesaid, was established 1794-1877 since which date said daily newspaper has been regularly issued in said county, and that a copy of the printed notice or publication is attached hereto exactly the same as was printed and published in the regular editions and issues of said daily newspaper on the following dates, viz:

27TH DAY OF AUGUST and the 3RD DAY OF SEPTEMBER 2004

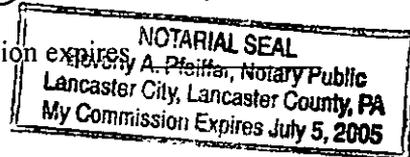
Affiant further deposes that she is the Billing Clerk duly authorized by the Lancaster Newspapers, Inc., a corporation, publisher of said Intelligencer Journal-Lancaster New Era-Sunday News a newspaper of general circulation, to verify the foregoing statement under oath, and also declares that affiant is not interested in the subject matter of the aforesaid notice or advertisement and that all allegations in the foregoing statement as to time, place and character of publication are true.


(Signature)

COPY OF NOTICE OF PUBLICATION

Sworn and subscribed to before me this
3RD DAY OF SEPTEMBER 2004

Notary Public

My commission expires



bent who has won a second term has held a double-digit lead at this point in the race. "This president is right at the margin — he has no room to spare," says Stephen Wayne, a political scientist at Georgetown University.

In fact, Bush is likely to need a lead of at least three points going into the election — because most undecided voters are likely to break against him in the end, says Charlie Cook, an independent political analyst. Polls show undecided voters are deeply pessimistic about the direction of the country and give Bush far lower approval ratings than average voters. As a result, Kerry has a better chance at winning them over than Bush — since he simply represents a change from the past four years.

"John Kerry is like the kid in spring semester of his senior year in college, where all he needs to do is get a C to pass," says Cook. "He just needs (to be) acceptable. President Bush has to change minds. And that's a much taller order."

One of the easiest ways for Bush to begin to do that is by continuing to raise doubts about Kerry — something the past few weeks of controversy over Kerry's medals and Purple Hearts seem to have accomplished.

The issue does hold the potential for a backlash against Bush, particularly with this week's focus on ties between the anti-Kerry group "Swift Boat Veterans for

dominated the campaign for three full weeks, preventing Kerry from effectively hammering Bush on a variety of other issues, from weak jobs reports to high oil prices.

"(Bush) is in a better position today than he was three weeks ago," says Tony Fabrizio, a Republican pollster. "I'd much rather have him answering questions on 527s — which most voters don't know what they are — than on what the price of home heating oil will be this winter."

But next week the focus will shift from Kerry to Bush. And as in any race involving an incumbent, the president will have to defend his record and make the case to voters that he deserves a second term.

Republicans argue it will offer

Marie O. Bomberger, 77, of Penn Drive, Conestoga, who died Friday, is survived by a daughter, Sallyanne, wife of Barry L. Ackerman of Brownstown. Her address was listed incorrectly in an obituary Monday. The New Era regrets the error.

The Lancaster New Era corrects errors of substance. It publishes clarifications when the editors believe information will help readers better understand an issue or news event. If you think we have made an error, call the news desk at 291-8733 or editor Ernest Schreiber at 291-8750 Monday through Saturday, 6:30 a.m. to 2:30 p.m. Voice mail is available after hours.

PUBLIC NOTICE

TRANSMISSION LINE CONSTRUCTION

PPL Electric Utilities Corp. (PPL) plan to add a second 138/69 kV circuit to the existing Mount Joy 138/69 kV Tap. The project involves attaching new arms, insulators and wires to existing transmission line structures. The project area is located in the Borough of Mount Joy, Lancaster County.

This project is required to meet the increasing demand for electricity and to improve reliability of electrical service in the area.

If you would like more information about this project, please contact PPL Regional Community Relations Director, John M. Levitski, at (717)560-2533.

On August 2, 2004, PPL filed an application with the Pennsylvania Public Utility Commission (PUC), which must approve the project before work can begin. A copy of this application is available for public inspection on weekdays during business hours at:

Mount Joy Borough Municipal Building
21 East Main Street
Mount Joy, PA 17552

If you wish to participate in the PUC application process, you should contact within 15 days:

James J. McNulty, Esquire
Prothonotary
Pennsylvania Public Utility Commission
PO Box 3265
Harrisburg, PA 17105-3265

As a reference aid, be sure to include the project's "docket number," which is A-110500F0348.

The Best Product in Gutter Protection



Waterloo®
Gutter Protection System

CALL 393-0859

The secret is out... Waterloo® is far superior in performance to Gutter Helmet®, Gutter Topper, Waterfall® and Leafguard™... keeps gutter clean and free flowing... bird and animal free.

Installs to all types of gutters, roof pitches (flat to mansard) and all styles of roofing. Collects valley water too!

GEORGE J. GROVE & SON, INC.

1219 Manheim Pike, Lancaster

(717) 393-0859

Mon - Fri 8am - 6pm • Sat, 8am - 1pm

NOV 08 2004

DOCUMENT
FOLDER

likely stand at 2.4 billion and 800 million, with the latter number considered a successful meeting of the target, the U.N. agencies said.

The leaders at the 2000 summit also pledged to cut in half the number of people living on less than \$1 a day, to provide universal primary school education by 2015, improve the lives of slum dwellers, halt or reverse the spread of HIV/AIDS and other diseases, close the so-called digital divide between the poor and the wealthy, and work to improve the environment.

The head of the U.N. Development Program, Mark Malloch Brown, said the world is doing so poorly in meeting the poverty-reduction targets that it will take most African countries almost 150 years to achieve them.

rambles in separate attacks that killed four and wounded 39. The bus bombing came within hours of each other in the neighboring districts of Kokrajhar and Goalpara in western Assam.

In a third attack, seven civilians were wounded by a grenade thrown into a crowded market in the town of Tangla 40 miles north of Gauhati, Assam's capital, Inspector General of Police Khagen Sharma said.

No group claimed responsibility for the string of attacks but Sharma blamed militants of the United Liberation Front of Asom.

Assam's top elected official, Chief Minister Tarun Gogoi, said the rebels, who have been fighting security forces since 1979 for a sovereign Assam, are now "waging a war on civilians."

held in a British prison on the U.S. warrant, suggests British authorities plan to pursue charges against al-Masri under British law.

Al-Masri was taken to a central London police station for questioning by anti-terrorism officers, police said.

If British authorities formally charge al-Masri, the case has to be resolved before any extradition proceedings, according to officials.

British law bars extradition to countries that might execute a suspect, and officials have made clear they would not send the Egyptian-born al-Masri to the United States unless it rules out the death penalty.

Al-Masri, whose mosque has been linked to several terrorist suspects — including Sept. 11

PUBLIC NOTICE

TRANSMISSION LINE CONSTRUCTION

PPL Electric Utilities Corp. (PPL) plan to add a second 138/69 kV circuit to the existing Mount Joy 138/69 kV Tap. The project involves attaching new arms, insulators and wires to existing transmission line structures. The project area is located in the Borough of Mount Joy, Lancaster County.

This project is required to meet the increasing demand for electricity and to improve reliability of electrical service in the area.

If you would like more information about this project, please contact PPL Regional Community Relations Director, John M. Levitski, at (717)560-2533.

On August 2, 2004, PPL filed an application with the Pennsylvania Public Utility Commission (PUC), which must approve the project before work can begin. A copy of this application is available for public inspection on weekdays during business hours at:

Mount Joy Borough Municipal Building
21 East Main Street
Mount Joy, PA 17552

If you wish to participate in the PUC application process, you should contact within 15 days:

James J. McNulty, Esquire
Prothonotary
Pennsylvania Public Utility Commission
PO Box 3265
Harrisburg, PA 17105-3265

As a reference aid, be sure to include the project's "docket number" which is A-110500F0348.

Put the living back in your living room. **electric flame**



Electric Fireplaces

BOWMAN'S STOVE & PATO
www.bowmansstove.com

1-800-642-0310
(717) 733-4973

1060 Division Hwy, Ephrata, PA
M-W 10-6; Th & F 10-8, Sat 10-4

SIZES R



Now Stocking
Women's Size 11

No A



1357 I
Lanca
www

Ask
About Our
**INTRO
OFFER!**

Salsa • Ballroom

NOV 08 2004

DOCUMENT