



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

ISSUED: July 23, 1993

IN REPLY PLEASE
REFER TO OUR FILE

A-110550F055

TO ALL PARTIES

Letter Notification of Philadelphia
Electric Company relative to
reconductoring and rebuilding of the
existing 128 kV line to operate as the
Woodbourne-Heaton 230 kV line

DOCUMENT
FOLDER

TO WHOM IT MAY CONCERN:

Enclosed is a copy of the Initial Decision of Administrative Law
Judge Herbert Smolen. This decision is being issued and mailed to all
parties on the above specified date.

If you do not agree with any part of this decision, you may send
written comments (called Exceptions) to the Commission. Specifically, an
original and nine (9) copies of your signed exceptions **MUST BE FILED WITH
THE SECRETARY OF THE COMMISSION IN ROOM B-18, NORTH OFFICE BUILDING, NORTH
STREET AND COMMONWEALTH AVENUE, HARRISBURG, PA OR MAILED TO P.O. BOX 3265,
HARRISBURG, PA 17105-3265, within twenty (20) days of the issuance date
of this letter.** The signed exceptions will be deemed filed on the date
actually received by the Secretary of the Commission or on the date
deposited in the mail as shown on U.S. Postal Service Form 3817
certificate of mailing attached to the cover of the original document
(52 Pa. Code §1.11(a)) or on the date deposited with an overnight express
package delivery service (52 Pa. Code 1.11(a)(2), (b)). If your
exceptions are sent by mail, please use the address shown at the top of
this letter. A copy of your exceptions must also be served on each party
of record. 52 Pa. Code §1.56(b) cannot be used to extend the prescribed
period for the filing of exceptions/reply exceptions.

If you receive exceptions from other parties, you may submit written
replies to those exceptions in the manner described above within ten (10)
days of the date that the exceptions are due.

Exceptions and reply exceptions shall obey 52 Pa. Code 5.533 and
5.535 particularly the 40-page limit for exceptions and the 25-page limit
for replies to exceptions. Exceptions should clearly be labeled as
"EXCEPTIONS OF (name of party) - (protestant, complainant, staff, etc.)".

If no exceptions are received within twenty (20) days, the decision
of the Administrative Law Judge may become final without further
Commission action. You will receive written notification if this occurs.

cc:alj smolen/office of alj/law bureau/osa/chairman/commissioners/
s&c utility/ots/corr. Very truly yours,
our file

Allison K. Turner

Encls. 1cs
Certified Mail
Receipt Requested
for a list of parties see attached sheet

Allison K. Turner
Chief Administrative Law Judge
AUG 04 1993

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Letter Notification of Philadelphia :
Electric Company Relative to :
Reconductoring and Rebuilding of the : A-110550F055
Existing 128 kV Line to Operate as :
the Woodbourne-Heaton 230 kV Line :

INITIAL DECISION

DOCKETED
AUG 04 1993

**DOCUMENT
FOLDER**

Before
HERBERT SMOLEN
Administrative Law Judge

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I. HISTORY OF THE PROCEEDING

A complete history of this proceeding is set forth in the Initial Decision of the Administrative Law Judge in this matter and in the Commission's Opinion and Order adopted March 11, 1993 and entered March 26, 1993. Accordingly, presented herein is the procedural history subsequent to the issuance of the Initial Decision.

Following the issuance of the Initial Decision, Exceptions were filed by the parties and by the Office of Trial Staff (OTS). In addition, Duquesne Light Company, Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, West Penn Power Company and UGI Utilities, Inc., jointly petitioned to intervene. However, those Petitions were denied by the Commission's Order of March 26, 1993. In that Opinion and Order, at page 21, the Commission stated as follows:

We note that the record concerning EMF has been extensively developed, but prior to our disposition of the instant matter we shall direct a limited remand. Our opening of the record to secure an important price (sic) of information appeals to our sense of fairness. However, we cannot go on forever in hope that the next piece of evidence or study will resolve the EMF question once and for all

Because the justification for remand is that additional hearings will allow us to consider better information, we would not restrict the scope of the hearings on remand to the only study about which we happen to be aware. Other studies may have become public since the close of the record in this case. We would, therefore, direct the ALJ to

consider all of these studies which the parties feel are relevant.

Id.

The Commission then specifically ordered that:

1. This matter be remanded to the Office of Administrative Law Judge for the purpose of:
 - a. receiving evidence and comment regarding all studies of the health effects of magnetic fields which are available on or before the hearings on that evidence commence; and
 - b. determining, in light of findings regarding health effects, what, if any, standards should exist for right-of-way width for the Woodbourne heaton 230 kV line.

Commission Opinion and Order of March 26, 1993, at 22-23.

In addition to the foregoing, the Commission further ordered:

That no other matters are to be considered, and the presiding Administrative Law Judge shall issue a supplemental decision concerning these additional studies and appropriate right-of-way standards within one hundred and twenty days of the entry of this Opinion and Order.

In addition to the foregoing, the Commission's Office of Trial Staff was granted to leave to participate, nunc pro tunc, and the Office of Trial Staff did enter its appearance in the proceeding.

Pursuant to said Remand Order, a telephonic prehearing conference was held on March 31, 1993, as a result of which the

parties submitted several suggested procedural schedules. Upon consideration thereof, the Administrative Law Judge issued an Order dated April 9, 1993 establishing a procedural schedule. Pursuant thereto, additional direct testimony was submitted on May 12, 1993 by PECO and the Office of Consumer Advocate (OCA). Protestants, PP&L and the Prosecutory Staff of the Commission's Law Bureau submitted written position statements pursuant to the Administrative Law Judge's Order of May 6, 1993. The OTS submitted a letter explaining, inter alia, that it could not prepare and serve testimony within the procedural schedule, and that it had filed a Petition on May 11, 1993 for reconsideration of the Commission's March 26, 1993 Opinion and Order. Thereafter, rebuttal testimony was submitted by PECO. Hearings for the introduction of written direct and rebuttal testimony and cross-examination thereon were held in Philadelphia on May 27, 28, and June 1, 1993. All parties were present thereat and the OTS indicated that it would monitor the proceedings.

PECO filed an Answer to the OTS' Petition for Reconsideration, to which OTS filed a Petition for Permission to File a Response to PECO's Answer, together with a Proposed Response and PECO filed a Petition for Permission to File an Additional Response and a Proposed Response to the OTS Response. By Opinion and Order adopted and entered June 10, 1993, and for the reasons therein set forth, the Petition of the OTS for

Reconsideration of the Commission's Opinion and Order entered March 26, 1993 was denied.

The record in the remanded proceedings consists of 234 pages of transcript (Prehearing Conference N.T. 1-159; evidentiary hearings N.T. 1533-1719) and various exhibits. Briefs and Reply Briefs were filed by PECO, Law Bureau, OCA, and PP&L. Protestants filed Proposed Findings of Fact and Conclusions of Law. The OTS indicated, inter alia, by letter, that it would not be filing a Main Brief, but reserved the right to file a Reply Brief and did so.

II. INTRODUCTION

It is important to restate that the Administrative Law Judge in this proceeding is not called upon to determine the scientific question as to whether EMF's contribute to or cause adverse human health effects. As stated in the Initial Decision, that question is clearly a matter for the scientific community to investigate, experiment, debate and determine. Further, as also stated in the Initial Decision, it is not the function of the Administrative Law Judge nor is it within his authority to overrule, modify, or otherwise rescind prior Orders of the Commission. That is within the province of the Commission itself and/or the appropriate appellant courts. Thus, and it bears repeating, in the instant matter, the Commission has specifically ordered, inter alia, as follows:

1. This matter be remanded to the Office of Administrative Law Judge for the purpose of:

- a. receiving evidence and comment regarding all studies of the health effects of magnetic fields which are available on or before the hearings on that evidence commence; and
- b. determining, in light of findings regarding health effects, what, if any, standards should exist for right-of-way width for the Woodbourne heaton 230 kV line.

2. That no other matters are to be considered, and the presiding Administrative Law Judge shall issue a supplemental decision concerning these additional studies and appropriate right-of-way standards within one hundred and twenty days of the entry of this Opinion and Order. (Emphasis supplied)

Thus, the parameters of this remanded proceeding have been specifically defined by the Commission. Accordingly, the role of the Administrative Law Judge in this remanded proceeding is bound by the foregoing directives. Moreover, determination of the remanded issues must be made within the framework of the record adduced at the remanded hearings, and such determination is of course limited to the particular line in question and is further limited to the scientific evidence presented at the remanded hearings, which scientific evidence is clearly ever-developing and continuing. Accordingly, the Findings and Conclusions set forth in this Supplemental Decision are based

upon and limited to the record evidence presented at the remanded hearings.

III. SUMMARY OF TESTIMONY

Seven witnesses appeared and testified at the remanded hearings. OCA presented the testimony of Mr. David Janes. PECO presented the testimony of Dr. Richard Bockman, Dr. Edward Gelmann, Dr. Phillip Cole, Mr. Ronald Oedemann, Mr. Donald Frieman and Mr. Charles Boeggeman. In view of the fact that one of the stated purposes for the remanded proceeding was to receive evidence and comments regarding all studies of the health effects of magnetic fields which are available on or before the hearings on that evidence commence, and because a digest of the testimony was included in the Initial Decision, a summary of the testimony on remand is being presented so that appropriate reference, analysis and comparison can be made with the testimony given during the initial phase of this proceeding.

A. Philadelphia Electric's Case On Remand

Ronald J. Oedemann, the lead project engineer for the Woodbourne-Heaton 230 kV line, testified, inter alia, that the line is a 12.8 mile 230 kV line which electrically connects the Woodbourne Substation to the Heaton Substation (PECO Direct on Remand No. 1, pp. 1-2); that it was constructed using 238 existing transmission line structures from an existing de-energized Conrail transmission line (Id., p. 2); that it is

designed in the "compact delta" configuration and the "ruling span" or the nominal distance between poles is 300 feet (Id., p. 2); that the Woodbourne-Heaton right-of-way is 60 feet contained within a wider existing utility corridor owned by Conrail (Id., p. 2); that the Conrail corridor itself has several existing or recent public utility uses: (1) an active single track Conrail freight rail system which consisted of two railroad tracks until 1991; (2) an electric 132 kV transmission line operated by Conrail as part of its bulk power system until 1986; (3) a Conrail power feed and signal communications system; and (4) the Woodbourne-Heaton 230 kV transmission line (Id., pp. 2-3); and that the existing Conrail corridor is approximately 100 feet wide at its narrowest points and approximately 995 feet at its widest points; the average width of the corridor being 310 feet (Id., p. 3).

The witness further testified that one side of the PECO right-of-way is coterminous with the edge of the Conrail utility corridor at 12 of the 238 poles (Id., p. 3); that at points where the edge of the transmission line right-of-way is coterminous with that of the Conrail-owned utility corridor, the adjoining land uses consist of commercial property, an electrical contractor, and land with abandoned vehicles and construction equipment (Id., p. 3); and that for the remaining 226 poles, the Conrail utility corridor extends beyond the edge of the PECO

right-of-way on both sides of the transmission line from approximately 40 feet to approximately 740 feet (Id., p. 3).

In his rebuttal testimony, the witness commented on the Protestant's May 14, 1993 Position Statement that the overhead Woodbourne-Heaton 230 kV line be replaced with an underground line (PECO Rebuttal No. 1 on Remand, p. 1), and estimated that taking into consideration costs for materials, basic engineering, installation of the cable and general overhead, placing an underground cable on the Conrail utility corridor to electrically connect the Woodbourne and Heaton Substations, it would cost a minimum of approximately \$38.5 million, and would take approximately two years to complete after commencement of engineering (Id., p. 1).

On cross-examination, the witness testified that the 12 poles which he identified as being at locations where the edge of the right-of-way and the edge of the corridor are coterminous are in three distinct locations along the line (N.T. 1582); that the nearest residential property line was about 40 feet from the center of the Woodbourne-Heaton right-of-way and that from his recollection of testimony, the nearest residence was 125 feet from the center of the right-of-way (N.T. 1583); that he did not know how many different tracts of residential property or undeveloped land zoned for residential use abutted the right-of-way (N.T. 1584); and that he limited his observations about

distance from the right-of-way to the houses owned by Protestants which he viewed from the railroad track (N.T. 1585-1586).

The witness further stated that the \$38.5 million cost of undergrounding a line in the corridor was a minimum figure and did not include the additional cost of maintenance required for an underground line (N.T. 1586-1587); that he did not look at any other corridor in considering the undergrounding of a line to connect the Woodbourne and Heaton substations, only the Conrail corridor, which was the shortest route between the two points (N.T. 1587); that for the cost of the hypothetical underground line, he assumed a three-phase cable in a steel pipe filled with oil (N.T. 1587); that the cables would be approximately 3 inches apart, a configuration normally used by PECO in connection with 230 kV underground installation (N.T. 1587-1588); that the cost of the line between the two substations is approximately \$15.5 million which does not include the cost of legal proceedings (N.T. 1588), which he did not know (N.T. 1589).

Donald S. Frieman, Manager of Real Estate for PECO, testified in rebuttal to Protestants' May 14, 1993 Statement of Position that the Company should purchase all properties any portion of which could be within levels of one milligauss more than 5% of the time (PECO Rebuttal on Remand No. 3, p. 1); that in regard to the Protestant's proposal and using Mr. Boeggeman's testimony that the specified field levels would exist out to

approximately 250 feet on either side of the transmission line, he used tax maps (N.T. 1598) to locate all parcels that were includable in the Protestants' proposal (Id., p. 2); that from county records, he determined the assessed value for the properties, as well as the accepted ratio in each county of assessed value to market value ["common level ratio"] (Id., p. 2); that using these methods, he calculated that the approximate market value of the properties includable in the Protestants' proposal would be over \$160 million (Id., p. 2); that PECO would not be able to exercise eminent domain for the portion of the property that is residential and therefore, refusal of any residential landowner to sell his property would prevent the use of the line (Id., p. 2); that a change in legislation would be required to permit the taking of homes by utilities through the exercise of eminent domain (Id., p. 2).

On cross-examination, the witness stated that he did not specifically focus on residential property in answering the Protestants' proposal, but that there were 314 parcels which included residential through industrial, commercial and institutional (N.T. 1592-1593); that the tax maps that he used did not indicate zoning; that he did not know how many of the properties were owned by Protestants (N.T. 1593); and that he did not know what portion of the \$160 million would consist of the

fair market value of the Protestants' properties in this case (N.T. 1593).

Also on cross-examination, the witness explained that the \$160 million is a minimum that likely would be increased by other factors, such as the effect of time in acquiring property (N.T. 1594), costs of condemnation (N.T. 1595), relocation (N.T. 1596), and demolition of existing structures (N.T. 1597). He further stated that there were no factors that would bring the cost of property acquisition down (N.T. 1596); that reuse of vacant land in the corridor would be minimal since the purpose of buying the corridor would be to keep it clear for utility use (N.T. 1597-1599); and that if the use changed to a utility corridor devoid of other uses, the value would drop tremendously (N.T. 1600).

Concerning PECO witness Van Dyke's statement (PECO Rebuttal Statement No. 5, p. 12) that energization of the line will have no impact on property value, this witness agreed, but stated that if PECO were ordered to buy the property within certain limits, land use would change to a utility corridor and the property values would initially drop because of removal of improvements and then would recycle and maybe go higher if other uses evolved (N.T. 1599-1605). The witness also stated that the cost to carry property, if it is utility property and is in the rate base, would be 16% (N.T. 1606); and that considering the

undeveloped land that PECO would buy and the present real estate market, the costs of carrying the property would be catastrophic to the company (N.T. 1606).

Finally, the witness testified that he did not attempt to ascertain the aggregate market value of the Protestants' properties, nor the market value of properties needed to be acquired if the test were any other test than one milligauss 5% of the time (N.T. 1607); and that he did not attempt to value property for reuses that would not entail residences, including every allowable use other than residences for children and schools (N.T. 1607).

Charles J. Boeggeman, an electrical engineer and Chairman of PECO's EMF Task Force, testified that magnetic fields, which are measured in milligauss (MG) are created by the flow of electric current through a conductor (PECO Direct on Remand No. 2, pp. 1-2); that factors contributing to the strength of magnetic fields associated with a transmission line at any point in time and space include the amount of current flowing through the conductors ("amperage"), and the configuration or design of the line and distance from the line (Id., p. 2); that he was not aware of any standards other than those adopted in Florida (for 230 kV transmission lines, 150 MG at the edge of the right-of-way) and the New York interim standard (200 MG at the edge of the right-of-way) [Id., p. 2]; that several states had

considered whether to enact magnetic field regulations, but none adopted standards that require specific right-of-way widths or edge of right-of-way field levels (Id., p. 2); that the level of magnetic fields for the Woodbourne-Heaton line not only meet, but are well below New York's standard (Id., p. 2); that the line's fields expected under normal operating conditions (which will exist 90% of the time) will not exceed 26 MG at the edge of the right-of-way (Id., p. 2); that under normal operating conditions, the expected magnetic fields associated with the line at the edge of the wider Conrail utility corridor in which the PECO right-of-way is located will be in the range of approximately 19 MG to well under 0.5 MG (Id., p. 3).

The witness then stated that the concept of prudent avoidance is one approach that can be used when considering whether to take steps to limit EMF exposure (Id., p. 3); that prudent avoidance involves limiting exposures when this can be done with small or modest investments of money or effort (Id., p. 3); and that prudent avoidance should be evaluated according to the facts of each particular situation (Id., p. 3).

The witness then testified that the compact delta configuration of the line, the projected amperage load and the right-of-way width have resulted in magnetic field levels for the Woodbourne-Heaton 230 kV line that are far below existing standards (Id., p. 3); that also, the location of the line right-

of-way within the wider, existing Conrail-owned utility corridor resulted in the fields at the edge of the utility corridor that are even lower and in some cases substantially lower than at the edge of the transmission line right-of-way (Id., p. 4); and that therefore, the existing right-of-way is consistent with the concept of prudent avoidance as the low fields from the line were achieved at modest or no cost (Id., p. 4).

The witness also testified concerning OCA's witness David Janes' testimony in OCA Statement No. 1B on how prudent avoidance could be incorporated into a similarity-based standard (PECO Rebuttal on Remand No. 2, p. 1). Witness Boeggeman stated that the majority of the measures described by Mr. Janes, such as continued "research into the effects of electric and magnetic fields" and "informing the public," while worth consideration, are unrelated to whether the Commission should set right-of-way width standards for the Woodbourne-Heaton 230 kV line and to any process for setting right-of-way width standards for this line (Id., p. 1); that the only factor mentioned by OCA witness Janes that was related to the question of setting right-of-way width standards was his suggestion that the Commission may wish to consider using a process in which the "similarity" basis for the standard is set using "only newer transmission line designs that minimize electric and magnetic fields" (Id., p. 2); and that the Woodbourne-Heaton line uses a "newer transmission line design"

which minimizes electric and magnetic fields, i.e., the compact delta configuration, which allows it to meet all existing magnetic fields standards (Id., p. 3).

With respect to Protestants' position that PECO should purchase all properties "any portion of which would be within levels above one milligauss more than 5% of the time" (Id., p. 3), the witness referred to his August 1991 direct testimony and exhibits (PECO Direct No. 2 and PECO Exhibit No. 2), and explained that the specified magnetic field levels would exist out to approximately 230-250 feet on either side of the transmission line (PECO Rebuttal on Remand No. 2, p. 3); that the purchase of these properties would not be consistent with the concept of prudent avoidance for two reasons (Id., pp. 3-4), i.e., first, the researchers at Carnegie Mellon University, who formulated the concept of prudent avoidance, stated that moving to get away from a transmission line went beyond prudence and that was what the Protestants' proposal was meant to do -- allow them (the Protestants) to move away from the line (Id., pp. 3-4), and second, the concept of prudent avoidance suggests considering actions which can be undertaken with "small or modest" investments of effort and money, and referring to the rebuttal testimony on remand of Ronald Oedemann, the cost of purchasing the Protestants' properties would be over \$160 million (Id., p. 4); and finally, that the additional cost of undergrounding the

Woodbourne-Heaton 230 kV line would be approximately \$38.5 million at minimum (Id., p. 4) which was not a small investment consistent with the concept of prudent avoidance (Id., p. 4).

On cross-examination, the witness testified that the New York 200 milligauss edge of right-of-way standard was calculated on maximum winter normal conductor rating from a survey of existing 345 kV transmission lines (N.T. 1551); that the New York 345 kV lines operated at their winter normal conductor rating 0.1 percent of the time and that 99% of the time the magnetic field at the edge of the right-of-way was less than 55 milligauss (N.T. 1552); that his calculations on Table 2 of PECO Exhibit No. 2 in regard to magnetic field levels for the Woodbourne-Heaton line operating under various loading conditions were not based on winter normal conductor ratings (N.T. 1553); that to convert the figures in column five of the table, the witness would multiply the number relating to loading in thousand amps by 1.8 (N.T. 1554-1555); and that the New York standard for 345 kV lines was applicable to 230 kV lines (N.T. 1554-1559).

As to the modest cost of measures related to prudent avoidance, PECO stipulated that Mr. Boeggeman did not do the cost calculations, but accepted the calculations of witness Oedemann (N.T. 1564-1571). The witness further testified that he did not consider the resale value of the Protestants' properties (if they

were purchased by PECO as had been proposed by Protestants) in his determinations about prudent avoidance (N.T. 1571-1574).

On redirect, the witness read portions of the document on "New York Interim Magnetic Field Standards" into the record to support his contention that the standard is applicable to 230 kV transmission lines (N.T. 1576-1577). In addition, he testified that there are physical constraints at the Woodbourne and Heaton substations that limit loading on this line to 1000 amperes maximum for emergencies (N.T. 1577-1578); and that even if the winter conductor rating was used for this line, the line still met the New York standards for magnetic fields (N.T. 1578).

Dr. Richard S. Bockman, who previously testified in this proceeding on electromagnetic field studies related to the endocrine system and the immune system (PECO Direct No. 3 on Remand, p. 1) and who is a medical doctor, a researcher and a teacher in the fields of endocrinology and immunology (Id., p. 1), testified in the remanded proceeding and described newer studies done in two areas of research involving the neuroendocrine system: magnetic field perception and calcium metabolism (Id., p. 1). The witness testified that he has concluded that with respect to magnetic fields, there remains no evidence to date to indicate that humans can perceive power frequency magnetic fields at levels associated with or far exceeding those from transmission lines [Lovely, et al., 1992]

(Id., p. 2); that the studies he reviewed on EMF and calcium metabolism (Parkinson & Sulik, 1992 and Prasad et al., 1991) were consistent with his previous conclusion that 60 Hz electric and/or magnetic fields do not modulate cell function or endocrine system function by altering calcium metabolism (Id., p. 2).

The witness then reviewed the Soriano et al. 1992 study involving EMF and the circadian rhythm of the hormone melatonin (Id., pp. 2-3), and stated that the study showed a decrease in the number of synaptic ribbons (a neuroanatomical correlate of melatonin rhythms) in rats after 15 and 21 days of exposure to 52,000 milligauss (Id., p. 3); that he discounted this research because it involved fields many times higher than those associated with a transmission line (Id., p. 3); and that his conclusion was that the rat melatonin studies do not provide a basis for concluding that power frequency fields lead to adverse effects on human biologic rhythms (Id., p. 3).

Witness Bockman next testified as to EMF studies related to reproduction and development (Id., p. 3). The witness stated that such studies using chick embryos exposed to 60 Hz sinusoidal fields show no significant difference between the exposed and the control groups in fetal malformations (Martin, 1992) or temporal aspects of development [Koch & Koch, 1991] (Id., p. 3). The witness further commented on an epidemiological study that found no association between use of electric bed

heating and congenital effects [Dlugosz et al., 1992] (Id., p. 3), and stated that these additional negative studies were consistent with those described in his previous testimony (Id., p. 3).

The witness also commented on recent immunologic studies exposing isolated human lymphocytes to magnetic fields and plant lectins [Prasad et al., 1991; Persson et al., 1991; and Yost & Liburdy, 1992] (Id., p. 4) and stated that the results of these studies have been mixed; that there is no clear biologic relevance of these studies using unusual plant lectins on naked cells (Id., p. 4); and that whole animal research provides a more accurate reflection of the functional integrity of the immune system, citing the 1991 McLean et al. study that showed that a 20,000 milligauss 60 Hz magnetic field had no effect on host immune response when natural killer cell activity was followed (Id., p. 4).

The witness indicated that he was familiar with recent reviews of EMF research, and specifically ones produced by the Electro-Magnetic Health Effects Committee for the Texas Public Utility Commission (Id., p. 5); and that he agreed with the Committee's conclusion that:

Research presented to date appears to reject the hypothesis that acute or prolonged exposure to EMF equivalent or several times stronger than fields experienced under high voltage AC lines results in biologic

disruption of endocrine or immunologic systems.

PECO Remand on Direct No. 3, p. 5.

Dr. Bockman further testified that his opinion is that power frequency electric and/or magnetic fields several times stronger than those experienced under transmission lines do not disrupt the endocrine or immune systems (Id., p. 5); and that he saw no reason to establish magnetic field right-of-way standards from the endocrine or immune sciences (Id., p. 5).

On cross-examination, the witness indicated that the diatom mobility study which Parkinson and Sulik attempted to replicate unsuccessfully had been conducted by Smith and Liboff among others at Montana State University (N.T. 1539); that a study conducted by Batelle Pacific Northwest Laboratories produced positive results at 16 hertz; and that he agreed that the results of studies on the effects of magnetic fields on diatom mobility have been mixed, adding that he did not believe studies of small calcium-containing organisms in the presence of non-power frequency fields had much biological relevance (N.T. 1540-1542).

With respect to diatom mobility, the witness reviewed Dr. Liboff's ion resonance theory (N.T. 1543); and then explained that the diatom system, which probably couldn't be farther away from humans, involves small organisms which contain a lot of calcium whose changes in mobility are measured as they move

through agar, a thick jello-like substance, under the influence of what are non-power frequency fields (N.T. 1544).

Concerning the specific paper on diatom movement, the witness testified that the researchers said they did have an effect at 16 Hz, but that the movement observed was sufficiently random that they could not say that there really was significant movement (N.T. 1545) which he believed negated the entire study (N.T. 1545-1546).

Referring to studies previously cited in his testimony which examined calcium movement in cells (patch-clamp technique used by Hojevik, et al.), the witness concluded that these studies do not show changes in calcium in the presence of electric and magnetic fields (N.T. 1546).

Dr. Philip Cole, a professor and researcher in epidemiology and a medical doctor, testified, inter alia, that he had previously testified in this proceeding on epidemiological research concerning power frequency electric and/or magnetic fields (Id., p. 1); that the purpose of his additional testimony was to identify and analyze the more recent epidemiological studies involving magnetic fields (Id., p. 1); that the first of the studies he reviewed involved EMF and childhood cancer, the most important of which was the recent residential study conducted in Sweden by Feychting and Ahlbom (1992); that the Swedish researchers had access to data on past loading (amperage)

and were able to calculate the average annual magnetic field that would have been associated with that loading (Id., p. 2); that from this information the researchers estimated for each residence in the study, the average annual strength of the magnetic field that the transmission line would have created in that residence (Id., p. 2); that most of the estimates used in the study deal with the average annual magnetic field associated with the transmission line in the year immediately prior to a child's diagnosis with cancer (Id., p. 2); that for some residences, spot measurements were also made (Id., p. 3); that the Swedish researchers calculated that if children who lived in the corridor had cancer at the same rate as the general childhood cancer in Sweden, there would be 138 cases expected in children living in the transmission line corridor; that the researchers found 142 cases of childhood cancer (Id., p. 3); and therefore Witness Cole concluded that this fact made the Swedish study a negative or a null study, i.e., that residence near high voltage lines is not associated with increased risk of cancer in children (Id., p. 3).

The witness further testified that the foregoing information was not in the original publication of the study which did not appear in a peer-reviewed journal (Id., p. 3); that the researchers released the information in response to inquiries from members of the scientific community (Id., p. 3); that the

data indicated that there were no differences between cases and controls or that cancer risk decreases with higher exposures for all childhood cancers and childhood brain cancers, whether exposure is estimated using calculated fields or with actual magnetic field measurements (Id., p. 4).

The witness also testified that the study is weakly positive for childhood leukemia (Id., p. 4); that on childhood leukemia, the study was small -- only 38 cases in a study base of all children who ever lived in the transmission line corridor from 1960 to 1985 (Id., p. 4); that moreover, children who lived in the corridor for the largest percentage of their life have the smallest risk of cancer (Id., p. 4); that for those children who lived in the corridor from birth to diagnosis, residence in a higher field home was associated with no increase in cancer risk (Id., p. 4).

The witness also pointed out inconsistent results from the Swedish study, in that the positive association of leukemia was true for single family houses but not apartments, and that it did not exist for children who were diagnosed with cancer from 1960 to 1974 (Id., p. 4); that a true cause of cancer would cause cancer in both types of residences and during all time periods under study (Id., p. 4); that there is no association between childhood leukemia and actual magnetic field measurements in the Swedish study (Id., p. 4); that the data on measured magnetic

fields are actually inverse as they show a lower incidence of cancer in children who resided in homes with higher field measurements (Id., p. 4); that he believed the Swedish study is negative for all cancers and brain cancers and that it is weakly positive for leukemia (Id., p. 5); and that because of the inconsistencies in the childhood leukemia data, the data could support a null or negative interpretation as easily as a positive one (Id., p. 5).

Next, the witness stated that he agreed with the conclusions of United Kingdom's National Radiological Protection Board ("NRPB") which in 1992 released an extensive review of the EMF epidemiology and which concluded that the epidemiological findings reviewed provide no firm evidence of the existence of a carcinogenic hazard from exposure of paternal gonads, the fetus, children or adults to extremely low frequency EMF that might be associated with residence near major sources of electricity supply, the use of electrical appliances or work in the electrical, electronics and telecommunications industry (Id., p. 5). Witness Cole also agreed with the NRPB's addendum to its report which was released in March 1993 in which the NRPB concluded that recent residential studies including the Swedish residential study do not establish that exposure to EMF is a cause of cancer (Id., p. 5-6); and he also agreed with the report's statement that epidemiological studies do not provide an

effective basis for quantitative restrictions on exposure to electromagnetic fields (Id., p. 5-6).

Next, witness Cole agreed with the conclusions of the scientific review of the Oak Ridge Associated Universities ("ORAU"), a private, not-for-profit consortium of 62 universities (Id., p. 6), which concluded that the available literature does not support a causal inference that EMF has a carcinogenic effect (Id., p. 6). The witness also pointed out that in a separate report, ORAU reviewed the Swedish study which had not previously been available and concluded that the evidence reported in the study was not sufficiently compelling to alter the conclusions of the ORAU report (Id., p. 6).

Witness Cole then discussed the Danish residential case-control study of childhood cancer conducted by Olsen et al. (Id., p. 7) and explained that in a preliminary report of partial results, the authors reported that in the Danish study population, living in a home near high voltage electric facility was not associated with increased risk of childhood leukemia or childhood brain tumors (Id., p. 7). However, the witness stated that the authors did report an increased risk of childhood lymphoma based on three cases (Id., p. 7), but he gave little weight to this study since the reported data was both partial and preliminary (Id., p. 7).

In considering the childhood cancer research as a whole, witness Cole concluded that there is no demonstrated increased risk of childhood cancer when actual electric and magnetic fields are measured (Id., p. 7); that when surrogates such as wiring code or estimated fields are used in childhood studies, the data show a pattern of mixed results between weak positive and negative outcomes (Id., p. 7); and that as a whole, the epidemiologic evidence on EMF provides no persuasive scientific support for the hypothesis that EMF causes cancer in children (Id., p. 7).

The witness then testified as to occupational and residential studies involving EMF exposure and adult cancer (Id., p. 8); that the recent research on adult cancers did not introduce significant changes in study design or method from previous research in this area (Id., p. 8); that the previously discussed Swedish residential study by Feychting and Ahlbom (1992) is uniformly null or negative for both measured fields and calculated fields, for all forms of adult brain cancer and for all forms of adult leukemia except chronic myeloid leukemia, which shows a small increase for calculated fields (Id., p. 8); that a residential study in the Netherlands (Schreiber et al., 1993) which used the retrospective follow-up method is negative, showing no association between residence near transmission facilities and cancer risk (Id., p. 8); that a case-control study

from Poland (Gajewski et al., 1989) showed the residential data from the study to be negative, but non-persuasive, due to limitations in the study (Id., p. 8); that with respect to four recent occupational case-control studies, the witness identified three as being positive and one as being negative (Id., p. 8-9); that none provides a significant improvement in method or design and he did not believe they add substantially to our knowledge (Id., p. 9); that another study, a retrospective follow-up study from Denmark (Guenel et al., 1992) showed preliminary results which are negative or null for breast cancer, melanoma, and brain cancer in both men and women and weakly positive for men for leukemia and negative for women for leukemia (Id., p. 9).

Witness Cole then discussed the occupational study conducted by Sahl et al., which he stated represented a substantial improvement over all previous occupational studies (Id., p. 9), stating that the Sahl study used actual measurements of magnetic fields in the workplace, rather than a peripheral approach such as use of job titles to categorize exposure (Id., p. 9); that workers were equipped with meters to record their magnetic field exposure during the full work shift and this information was used to characterize magnetic field exposure in the jobs evaluated in the study (Id., p. 9); that this method was much more reliable than utilizing job titles to estimate EMF exposure (Id., p. 9); that the Sahl study consists of four

separate investigations: a cohort (retrospective follow-up) study and three case-control studies (Id., p. 10); that the size of the study was quite large; that cancer deaths among more than 36,000 utility workers were examined from the period 1960-88 (Id., p. 10); that during that period, more than 3,000 utility workers died, including more than 700 who died from cancer (Id., p. 10); that the Sahl study is impressive since it considered a number of different measures of workplace magnetic field exposure including (1) mean; (2) median; (3) 99th percentile; (4) fraction exceeding 10 MG; and (5) fraction exceeding 50 MG (Id., p. 10); that Sahl had examined associations of each of these measures with leukemia, brain cancers and lymphoma (Id., p. 10), and also evaluated a number of possible "latency period" assumptions by considering exposure windows of 10 and 20 years in combination with assumed latency periods of 2 and 5 years (Id., p. 10); that the results of the Sahl study were consistently negative (Id., p. 10); that no consistent association was found between any measure of workplace magnetic field exposure and leukemia, brain cancer or lymphoma risk -- even among workers who had significantly higher exposures to magnetic fields (Id., p. 10-11); and that the study showed no evidence of a dose-response relationship and no indication that the negative results of the study were significantly influenced by confounding or other factors (Id., p. 11).

Witness Cole's overall conclusion in regard to adult cancer studies was that the studies show weakly positive to zero to inverse associations; that the studies that use the most acceptable design consistently have found no association between EMF and cancer (Id., p. 11); that overall, the studies he reviewed do not support the hypothesis that EMF is associated with adult cancer; that the best designed and conducted studies provide strong support against the hypothesis that EMF is associated with adult cancer (Id., p. 11); and that his conclusion is that there is no demonstrated relationship between EMF and cancer in human beings (Id., p. 11). The witness further stated that he believed that the Woodbourne-Heaton 230 kV line poses no threat of cancer to persons in the vicinity and that epidemiologic research provides no reason to set any standards related to this line (Id., p. 12).

On cross-examination, the witness testified that the Feychting and Ahlbom Swedish residential study used three types of measurement: calculated historic fields; distance from power line and contemporary spot measurement (N.T. 1637); that the historic calculated field is new to EMF residential studies; that the measure is more detailed, but may not be the most accurate (N.T. 1637); that the sample for the study selected included those people who lived within 300 meters of transmission lines of a certain size within Sweden during a certain period and had to

be in the Swedish population register (N.T. 1638); that the selection procedure was an accepted way to minimize bias (N.T. 1639); that in examining data tables from the study, the witness stated that 0.1 micro-tesla was the same as one milligauss and that 0.25 micro-tesla equalled 2.5 milligauss (N.T. 1639-1640); that "RR" meant "relative risk"; that in the Swedish residential study the RR for 0.25 micro-tesla for leukemia was 3.3, which the witness termed a marginally significant "RR" (N.T. 1640); that the increased risk for childhood leukemia becomes statistically significant when adjusted for socioeconomic status (N.T. 1641); that when the RR is adjusted for car exhaust, it is marginally statistically significant but it is weaker than it has previously been (N.T. 1642); that in Table 4.31 of the Swedish residential study, the authors did not report a statistically significant increase in risk for childhood leukemia associated with a distance of a child's home from a powerline of zero to fifty feet (N.T. 1642); that in the table labeled "Cancer Risk in Children in Relation to Distance to Powerline Restricted to One Family Houses," the authors reported a marginal statistical increase in risk for childhood leukemia at a distance of 50 feet from a powerline (N.T. 1643); that he did not believe the authors presented data to account for the difference in results from children living in single family dwelling to those living in apartments (N.T. 1643-1644); that the authors offered an argument

as to the difference in the two categories based on precision of calculated fields being possibly lower for apartment houses than for single family dwellings (N.T. 1644); that the authors indicated that it would take a shifting of one case from the lowest to highest exposure category among those in apartment houses to produce a relative risk of 1.8 for apartment dwellers (N.T. 1644); and that the authors indicated an inability to take accurate measurements inside about one-third or 200 out of 626 apartments (N.T. 1645).

The witness further indicated his agreement that the authors supported their idea that the precision of the estimates for apartment houses is poorer than it is for single family homes (N.T. 1645); that imprecision of measurement could go either way and it is only an explanation for variability associated with the result (N.T. 1646); that it is a possible explanation, but not the explanation (N.T. 1646).

Witness Cole next referred to the Swedish occupational study conducted by Floderus as one of three positive studies discussed in his written statement (N.T. 1646-1648); that the Floderus study used job histories and dosimeters to do EMF exposure assessment at the work site, but he indicated that less than 5% of the total employment experience was dose-assessed (N.T. 1647); that the dosimeters were attached to workers who were not in the study but who now occupied the jobs that the

study group occupied sometime in the past (N.T. 1648); that the dosimeter readings taken were used by the researchers as a basis for assumption that the worker of 27 years ago was exposed to the same level of EMF exposure recorded today on the job (N.T. 1648).

With respect to the Sahl study, the witness characterized it as negative and confirmed there were two approaches used in it: one based on job title where a distinction is made between jobs related to energized equipment and other related jobs and one in which current workers wore dosimeters (N.T. 1648-1649); that although the Sahl study also used dosimeters on current workers, the period of time involving the retrospective nature of the study was somewhat shorter than that in the Swedish study so the exposure information is more likely to be accurate (N.T. 1649); that the Sahl study was a much more thorough assessment of the exposure in that a very substantial proportion of the work history was covered by the imputed dose assessment (N.T. 1649-1650); that the study was much more complete and much more focused than the Floderus study in that all the workers in the study were workers within the utility industry (N.T. 1650); that although the basic procedure was the same in both studies, the depth, quantity and quality of the studies were not comparable (N.T. 1650); that the incidence of cancer is related to age but that the Sahl study did not publish any age-specific relative risks (N.T. 1651-1652); that the Sahl

study did not provide any standard mortality ratios that compare age-adjusted cancer rates in the study population to the population at large (N.T. 1652); that he did not agree with the statement in the Sahl study that the available data provide some support for the theory that field intensities found in the work environment may play a role in cancer promotion (N.T. 1653); that the statement was not part of the study, but a statement of background (N.T. 1653); that he would not agree to it because it was a half-truth and that the statement could be modified to say the available data provide evidence against the theory because there is some evidence for it and some against it (N.T. 1653).

Witness Cole restated his opinion that it was reasonable not to initiate any new studies until the existing group of third generation studies (of which the Sahl study is one) are completed (N.T. 1664); that by third generation studies, he meant studies using measurement-based exposure assessments (N.T. 1663); that it will be six months before his second generation study would be completed, and he anticipated that the third generation studies would be available after the first of the year (N.T. 1672).

On redirect, witness Cole stated with respect to the Swedish residential study, that with respect to the category of disease, the study is small, i.e., only 38 cases of leukemia in the study (N.T. 1676-1677); that statistical significance is a

necessary but not sufficient criterion of meaningful association (N.T. 1677); that in the Swedish residential study, so many comparisons were made (10 forms of cancer, two time periods and three exposure assessments), one is going to see statistical significance attach due to chance (N.T. 1678); that the study is positive only for childhood leukemia but that there were major flaws in that study that detract from any casual interpretation (N.T. 1678).

The witness indicated that the Sahl study did report age-adjusted risk ratios (N.T. 1679); that Sahl did a nested case-control study, a study in a study, and the focus of the analysis was on case-control components for lymphoma, brain cancer and leukemia in adults in the context of heavily exposed people [utility workers] (N.T. 1681); that the focus on the analysis and analytical tools is on those of the case-control study not those of the follow-up study so the absence of a "SMR" is irrelevant (N.T. 1681).

On recross, the witness testified that there is no known human carcinogen that fails to show a dose-response relationship (N.T. 1682); that the Swedish study, although represented to be positive by its authors for leukemia, has a number of major detractions from a positive interpretation of its leukemia association: (1) the dose-response relationship is seen only with calculated magnetic fields and distance, which are in

fact the same measure, and no dose-response when information is looked at in spot measurements; (2) there is no association in apartment homes; (3) the study was divided into two time periods and was negative in the larger of those time periods; (4) the study does not show dose-response with duration of residence within the transmission line corridor, but shows that children who live in the corridor for the longest period of time have the lowest risk of leukemia; and (5) the study shows 39 cases of leukemia observed and 35 cases expected, which are the same number when you are dealing with a large population over long periods of time (N.T. 1683-1684); that not only was the number of cases used in the childhood leukemia small, but the cases of brain tumor (33), the cases for children with lymphoma (19), the children with kidney tumors or Wilms tumor (10) and the 41 children who fell into other categories which were subdivided among a number of cancers were also small (N.T. 1690-1691); that in case studies in adults, there were typically 50, 60 or 70 or so, double or triple the number of cases than for children (N.T. 1691-1692); that the number of cases for adults with acute lymphatic leukemia was 14 (N.T. 1692).

In connection with the Sahl study, the witness explained that age-specific relative risk pertains to a narrow segment of age, e.g., 40-59, or 50 and over, or under 20 (N.T. 1692); that age-specific means restricted to age (N.T. 1692);

that age-adjusted means unrestricted as to age but manipulated statistically in such a way that comparisons are devoid of any effect of age (N.T. 1693).

Edward Paul Gelmann, Professor of Medicine, Professor of Anatomy and Cell Biology, and Chief of the Division of Medical Oncology at the Georgetown University Medical School (PECO Direct on Remand No. 5, p. 1), who testified previously in this proceeding on molecular genetics, cellular biology and cancer and the EMF research related to those areas (Id., p. 1), testified in the remanded proceeding regarding the recent results of mutational analyses, chromosome studies and animal studies (Id., p. 2); that "mutational analyses" were tests that show whether there was a permanent, heritable change to the cell's DNA, or "genetic material" which is essential for normal cells to be transformed into cancer cells (Id., p. 2); that three recent publications (Novelli et al., 1991; Fiorani et al., 1992; and Otaka et al., 1992) reported that exposure to power frequency electric and/or magnetic fields had no effects on mutations (Id., p. 2).

The witness also testified on chromosome studies, which evaluate whether there are breaks or damage to the chromosomes as a result of exposure to an agent (Id., p. 2); that these studies provide information on an agent's potential to cause cancer or other adverse health effects (Id., p. 2); that in one chromosome

study (Livingston et al., 1991), researchers found no effect on chromosomes using several different assays of human lymphocytes and CHO (mammalian) cells exposed to 60 Hz magnetic fields (Id., p. 2-3); that in a second chromosome study (Ager & Radul, 1992), researchers found no effect on chromosomes in cells exposed to 60 Hz magnetic fields alone and no enhancement of chromosomal damage caused by ultraviolet radiation (Id., p. 3).

Witness Gelmann next testified as to recent animal studies involving EMF (Id., p. 3); that animal studies have a broader potential than studies on isolated cells to tell researchers about genetic change or other adverse health effects on cells or groups of cells and whether any such changes are related to adverse health outcomes (Id., p. 3); that recent research involving whole animals exposed to power frequency magnetic fields in combination with chemical agents (Mevisson et al., 1993; Rannug et al., 1993; McLean et al., 1991; and Stuchley et al., 1992) indicates that magnetic field exposure did not increase the number of animals that developed cancer (Id., p. 3-4).

The witness further testified that recent attempts to replicate previous work done on protein synthesis and RNA transcription by Goodman et al. have been unsuccessful [Parker & Winters, 1992] (Id., p. 4).

Witness Gelmann next testified about new reviews of EMF research undertaken by the Virginia Department of Health (1992 and 1993) and the Maryland Department of Health [1992] (Id., p. 5); that he agreed with the conclusion of these reviews that the research on EMF remains unclear, and that adverse human health effects of EMF exposure have not been demonstrated (Id., p. 5).

Witness Gelmann indicated that recent research did not alter his prior opinion (PECO Rebuttal Statement No. 3, p. 22) that extensive research on molecular and cellular biology and cancer provides no scientific basis to conclude that power frequency fields cause, promote, or otherwise contribute to the development of cancer or other adverse health effects (PECO Direct on Remand No. 5, p. 5); and that based on his area of expertise, there is no scientific or medical basis to develop a right-of-way width standard for transmission lines (Id., p. 5).

On cross-examination, he testified that he was not familiar with a study which was presented last week to the American Geophysical Union involving epilepsy patients exposed to weak magnetic fields reported in the May 31, 1993 Philadelphia Inquirer (N.T. 1703-1704); that he had not studied as part of his testimony the potential of alteration of cells or subsets of cells through the interaction of magnetic fields and magnetites in the body, but he had read some papers on the subject (N.T. 1704); that his conclusion that scientific research provides no

basis to conclude that power frequency fields cause, promote or otherwise contribute to the development of cancer or other adverse health effects, did take into account at least one study on magnetite but does not include the study reported in the Philadelphia Inquirer (N.T. 1705); that he did not recollect if magnetites were located within the human body, and was not confident that there is a feasible mechanism for electromagnetic fields and cancer to be related because to his knowledge, there is no relationship between magnetite and the functioning of RNA (N.T. 1708).

B. OCA's Case on Remand

David E. Janes, Vice President of Risk Analysis Corporation, who testified in the initial phase of this proceeding, testified, inter alia, in the remanded proceeding that weak electric and magnetic fields can affect cellular and animal systems, but that the weak field effects observed in animals are subtle and often transient or reversible (OCA Statement No. 1B, p. 2); that the connection between these effects and any harm to human health is unclear; that his conclusion presented in his 1991 testimony remains valid and supported by three extensive reviews of literature which had been undertaken since that time (Id., pp. 2, 18, References 2, 3 & 4).

The witness further testified that he agreed with Dr. Rosenbaum (OCA Statement No. 2) that the epidemiological studies

are confusing and it is not even clear if exposure to power lines does increase the risk of cancer; that it is the average magnetic field that is the cause (Id., p. 3).

Witness Janes also stated his belief that the four recent epidemiological studies, i.e., two case control studies in Sweden, a case control study in Denmark and a cohort and case control study of electric utility workers in the United States, did not resolve the confusion about whether exposure to power frequency magnetic fields affects human health (Id., pp. 3-4, 18, Reference 6-9); that the Swedish occupational study reports a positive association between exposure to magnetic fields and the incidence of chronic lymphocytic leukemia, while in the Swedish residential study, the association appears to be negative (Id., pp. 4, 18, References 6 & 7); that the results of the Swedish residential study of an association between magnetic field exposure and childhood leukemia, but no association for brain tumors, are at variance with the earlier Swedish study by Tomenius (Id., pp. 4, 18, References 6 & 10); that Tomenius saw only three-tenths of the expected number of cases of leukemia in those more highly exposed to magnetic fields and an increase in the incidence of brain tumors and benign childhood tumors among those with higher field readings and those nearer power lines (Id., pp. 4, 18, Reference 10); and that the most troublesome result of the Swedish residential study was the association

between childhood leukemia and magnetic field exposure. However, witness Janes cautioned that associations in one study may not be found in subsequent studies (Id., p. 4).

The witness next testified that at this time, biophysical mechanisms of how weak fields might interact with biological systems to produce harm have not been demonstrated experimentally (Id., p. 5); that without a viable biophysical mechanism to connect them, the results of epidemiological, animal and cellular level studies alone are not strong enough to establish a causal link between exposure to power frequency fields and harmful effects (Id., p. 5); but that experimental evidence makes the hypothesis of harmful effects plausible and the possibility of harm could not be summarily dismissed (Id., p. 5).

The witness then explained the policy alternatives that other state regulators have to control exposure to power frequency fields from transmission lines (Id., p. 5), i.e., the five policy alternatives developed at Carnegie Mellon University in a paper prepared for the U.S. Congress Office of Technology Assessment (Morgan's OTA Report), as follows:

1. Do nothing until the science becomes better.
2. Make public information available, but take no further action.
3. Adopt a field strength safety approach to transmission line fields based on the fiction that the numbers are supported by a review of the science . . .

4. Adopt a "similarity" based approach to transmission line fields which makes the exposures that people receive to these fields "similar" to those they receive from other sources in modern life . . .
5. Adopt a "prudent avoidance" strategy. That is look systematically for strategies which can keep people out of 60 Hz fields arising from all sources but only adopt those which look to be "prudent" investments given their cost and our current level of scientific understanding about possible risks.

OCA Statement No. 1B, pp. 6, 18, Reference 11.

Witness Janes then explained that some states have set standards for power frequency electric and magnetic fields on or at the edge of the right-of-way (Id., p. 7); that other states have decided that the standards are not warranted at this time and have active programs for monitoring and evaluating the results of the research (Id., p. 7); that others have explicitly or implicitly adopted a "prudent avoidance" approach (Id., p. 7); that seven states have adopted standards for electric field strength at or at the edge of the right-of-way (Id., p. 7); that Florida and New York have adopted standards that regulate magnetic fields at the edge of right-of-way but neither represent these standards as being "health based" standards (Id., pp. 7, 18, Reference 12); that these standards are more logically consistent with the "similarity" based approach (Id., pp. 7-8); [see Table 1 at p. 9 of OCA Statement No. 1B which lists the states which have adopted field level standards].

The witness also testified that a health based standard for power frequency electric and magnetic fields cannot be developed at this time because the uncertainties are too great (Id., p. 11); that there were two additional problems: not knowing what aspect of exposure to control nor the shape of the response function (Id., p. 11-12).

To explain similarity standards, the witness cited Morgan's OTA Report which states,

[s]imilarity based control sets out to make people's exposure to transmission line fields as "similar" as possible to the exposures we receive from all other fields in our day-to-day lives.

OCA Statement No. 1B, pp. 12, 19, Reference 12.

Witness Janes further referred to two grounds set forth in Morgan's OTA Report, i.e., (1) acceptability and (2) equity (Id., p. 12); that is, by making transmission exposures similar, they are made socially acceptable (Id., p. 12); that if transmission line fields are made similar to fields to which everyone is exposed from other sources, then asking people living near transmission lines to bear similar burdens is not inequitable (Id., p. 13).

The witness next testified that the electric and magnetic fields produced by the Woodbourne-Heaton 230 kV line do not exceed New York and Florida standards (Id., p. 13-14); that since the maximum values of the magnetic field depend on line

loading, if the line operates 90% at "light" and "normal" loads, 0.05% (4 hours) at "emergency maximum" and the remaining time at heavy load, then the maximum annual average fields on the right-of-way and at the edge of the right-of-way should not exceed 45 and 27 milligauss, respectively (Id., p. 13); that under "emergency maximum" operating conditions, the maximum fields on the right-of-way and at the edge of the right-of-way are 120 and 70 milligauss, respectively (Id., p. 12-13).

The witness further stated that if a health based standard could not be developed at this time, then similarity and prudence concepts could be incorporated by Pennsylvania into the regulatory process (Id., p. 14); that a study should be done to determine the maximum electric and magnetic fields at the edge of the right-of-way for a representative sample of 230 kV transmission lines, not necessarily only those in Pennsylvania (Id., p. 14); that from the results of the study, values of electric and magnetic field strengths could be selected [as standards] that would be typical or similar to values elsewhere in the state (Id., p. 14); and that prudence could be incorporated into the process of developing a similarity based standard by using only newer transmission line designs that minimize electric and magnetic fields (Id., p. 15).

Witness Janes also indicated that in new applications, the Commission could require utilities to document the electric

and magnetic fields produced by each of the alternative designs they considered as well as the actions actively taken by the utility to reduce electric and magnetic fields and the attendant costs (Id., p. 15); and that other prudence measures referred to by Dr. Rosenbaum in earlier testimony are as follows: (1) research into the effects of electric and magnetic fields should be continued; (2) the government and the industry should be aggressive in periodically informing the public in an impartial manner about the latest information about EMF; (3) the public should be involved in the decision making process; (4) companies contemplating power line projects should consider the cost and effects of possible mitigative measures in planning; (5) mitigative measures that should be considered include, inter alia, avoiding heavily populated areas, avoiding parks, schools and other public facilities, widening rights-of-way, limiting public uses of rights-of-way, using higher ground clearances, and designing the power lines to reduce the fields; and (6) in planning, one should err on the side of safety, but not without considering the cost (Id., p. 16).

The witness then recommended how the Commission could set a numerical standard for electric and magnetic fields at the edge of right-of-way for the Woodbourne-Heaton 230 kV line (Id., p. 16); i.e., that the standard set should be an interim standard and made with the recognition that it is not based on avoidance

of health effects (Id., p. 16); that the Commission, as an interim measure, could adopt a similarity and prudence based standard for the Woodbourne-Heaton 230 kV line using lines of modern design as a basis, and not necessarily only those in Pennsylvania (Id., p. 17).

On cross-examination, the witness testified that from his reading of epidemiological literature, the most consistent observation is an association between exposure to magnetic fields and the incidence of leukemia (N.T. 1612); that the issue needed further investigation because it was troublesome to him (N.T. 1612-1613); that he reviewed the Danish study but noted that it was an unpublished preliminary report from which he could draw no conclusions (N.T. 1613); that a health based standard cannot be established at this time (N.T. 1614); that, hypothetically, prudent avoidance would entail avoiding the construction of new lines and consequent exposure if the lines were not needed (N.T. 1617); that in the interim period before a field limit standard is set, he would want some understanding of what the benefit of the line would be (N.T. 1618).

The witness doubted he would set a magnetic field level for this line at less than one milligauss, but didn't know (N.T. 1619); but he would not agree that the standard would be substantially greater than one milligauss (N.T. 1619).

Witness Janes agreed with the Oak Ridge Associates Universities (ORAU) that the report indicates that there is no convincing evidence in the published literature to support the contention that exposures to extremely low-frequency electric and magnetic fields generated by sources such as household appliances, video display terminals and local power lines are demonstrable health hazards (N.T. 1625-1626; and that the statement from the report was consistent with his position (N.T. 1626).

Witness Janes then testified that he did not believe that the Commission should set a right-of-way standard for magnetic fields for the Woodbourne-Heaton 230 kV line (N.T. 1627).

IV. FINDINGS OF FACT

All of the following Findings of Fact are based solely upon the evidence presented of record in this remanded proceeding. However, in order to avoid what might be considered as definite pronouncements for all time about scientific research and EMF effects while such research is on-going and other cases involving the same subject matter are pending, the Administrative Law Judge has specifically added the phrase, "Based on the evidence presented of record in this proceeding," as an additional preface to certain of the Findings. That is not to say that the other Findings are not based upon the record

evidence presented in this proceeding, but the additional preface is added to emphasize the fact that references to scientific studies in this proceeding are not conclusive on the subject matter at this time, and that scientific research and studies are on-going.

1. The National Electrical Safety Code requires a right-of-way width of approximately 60 feet (approximately 30 feet on either side of the transmission line) for the Woodbourne-Heaton Line. This 60-foot right-of-way is contained within a wider existing utility corridor owned by Conrail (PECO Direct on Remand No. 1 [Oedemann] at p. 2).

2. Woodbourne-Heaton's existing utility corridor has several existing or recent public utility uses, including: (1) an active Conrail single track freight rail system which consisted of two railroad tracks until 1991; (2) until 1986, an electric 132 kV transmission line operated by Amtrak as part of its bulk power system (3) a Conrail power feed and signal communications system; and (4) the Woodbourne-Heaton 230 kV transmission line (PECO Direct on Remand No. 1 [Oedemann] at p. 2).

3. The existing utility corridor between the Woodbourne and Heaton substations, as measured at the transmission structures, is approximately 100 feet wide at its narrowest points and approximately 995 feet wide at its widest

points. The average width of the corridor is approximately 310 feet (PECO Direct on Remand No. 1 [Oedemann] at p. 2).

4. The Woodbourne-Heaton line has 238 poles. At 12 of these poles, one side of the right-of-way is coterminous with the edge of the existing utility corridor. At three locations along the utility corridor where the edge of the Woodbourne-Heaton right-of-way is the same as the edge of the Conrail-owned utility corridor, the adjoining land uses consist of commercial property, and electrical contractor, and land with abandoned vehicles and construction equipment (N.T. 1581-1583; PECO Direct on Remand No. 1 [Oedemann] at p. 3).

5. The remaining 226 poles the Conrail-owned utility corridor extends beyond the edge of the Woodbourne-Heaton right-of-way on both sides of the transmission line. For these 226 poles, the distance from the Woodbourne-Heaton line to the edge of the Conrail-owned utility corridor ranges from approximately 40 to 740 feet (PECO Direct on Remand No. 1 [Oedemann] at p. 3).

6. Magnetic fields are created by the flow of electric current through a conductor. The unit of measure of the magnetic field is expressed in milligauss ("MG") (PECO Direct on Remand No. 2 [Boeggeman] at p. 2).

7. Based on the evidence presented of record in this proceeding, it is not possible at this time to state that exposure above a certain electromagnetic field level will have an

adverse effect on health or that exposures below a certain level are completely safe (OCA Statement 1B at 16).

8. A number of factors contribute to the strength of the magnetic field associated with a transmission line at any point in time and space, including the amount of current flowing through the conductors (amperage), the configuration (design) of the transmission line, and distance from the line (PECO Direct on Remand No. 2 [Boeggeman] at p. 2).

9. For the Woodbourne-Heaton line, the magnetic fields expended under normal operation conditions, i.e, the conditions that will exist over 90% of the time, will not exceed 26 MG at the edge of the right-of-way (PECO Direct on Remand No. 2 [Boeggeman] at p. 2).

10. The cost of placing an underground cable on the Conrail utility corridor to electrically connect the Woodbourne and Heaton Substations would be approximately \$38.5 million and would take approximately two years to complete. Additional cost to the utility would include increased cost of maintenance required for an underground line (N.T. 1586-1587; PECO Rebuttal on Remand No. 1 [Oedemann] at p. 1).

11. The cost of purchasing along the Woodbourne-Heaton 230 kV Line all properties, any portion of which would be within magnetic field levels above one milligauss for more than 5% of

the time, would be at least \$160 million (N.T. 1595-1596; (PECO Rebuttal on Remand No. 3, p. 2).

12. The States which have established edge of right-of-way standards are Florida and New York (OCA Statement 1B at 12).

13. The Florida and New York standards are not health-based standards (OCA Statement 1B at 12).

14. In jurisdictions in which a numerical edge of right-of-way standard has been set, the milligauss level has been set by comparison to existing transmission lines and their average edge of right-of-way milligauss levels (OCA Statement 1B at 12-13).

15. The New York standard is based upon the average measurements taken on 345 kV transmission lines within New York (OCA Statement 1B at 12-13).

16. The electric and magnetic fields produced by the Woodbourne-Heaton 230 kV Line do not exceed New York and Florida standards (PECO Direct on Remand No. 2 [Boeggeman] at p. 3; OCA Statement No. 1B [Janes] at pp. 13-14).

17. Florida's existing standards for a transmission line electric field strength on the right-of-way is 8 kV/m and at the edge of the right-of-way is 2 kV/m for 230 kV or smaller lines; the standards for the magnetic field at the

edge of the right-of-way is 150 mG (max load) for 230 kV or smaller lines (OCA Statement No. 1B [Janes] at p. 9).

18. New York's existing standards for the electric field on the right-of-way is 11.8 kV/m and at the edge of the transmission right-of-way is 1.6 kV/m; the magnetic field strength standard at the transmission edge of the right-of-way is 200 MG (OCA Statement No. 1B [Janes] at p. 9).

19. Prudent avoidance involves limiting EMF exposures to the general public via small and modest investment of money or effort (PECO Direct on Remand No. 2, p. 3).

20. The design and location of the Woodbourne-Heaton 230 kV Line achieve reduced EMF field levels at modest or no additional cost and as such the line is consistent with principles of prudent avoidance (PECO Direct on Remand No. 2 [Boeggeman] at pp. 3-4).

21. Undergrounding a transmission line on the Conrail corridor between the Woodbourne and Heaton substations or purchasing all properties, any portion of which would be within magnetic field levels above one milligauss for more than 5% of the time, would not be consistent with principles of prudent avoidance as the cost involved would be significant (PECO Direct on Remand No. 2 [Boeggeman] at p. 3-4).

22. Based on the evidence presented of record in this proceeding, studies by Parkinson & Salik 1992 and Prasad et al.

1992 indicated that 60 Hz electric and/or magnetic fields do not modulate cell function or endocrine system function by altering calcium metabolism (PECO Direct on Remand No. 3, p. 2).

23. Based on the evidence presented of record in this proceeding, the results of the Sorieno et al. 1992 study indicated a decrease in the number of synaptic ribbons (a neuroanatomical correlate of melatonin rhythms) in rats after 15 and 21 days of exposure to 52,000 milligauss (PECO Direct on Remand No. 3, p. 3), but the research was discounted by PECO witness Bockman because it involved fields many times higher than those associated with a transmission line (Id., p. 3).

24. Based on the evidence presented of record in this proceeding, EMF studies related to reproduction and development (PECO Direct on Remand No. 3, p. 3) indicated that such studies using chick embryos exposed to 60 Hz sinusoidal fields showed no significant difference between the exposed and the control groups in fetal malformations (Martin, 1992) or temporal aspects of development (Koch & Koch 1991) (Id., p. 3).

25. Based on the evidence presented of record in this proceeding, an epidemiological study (Dbugosz et al. 1992) found no association between use of electric bed heating and congenital effects (PECO Direct on Remand No. 3, p. 3).

26. Based on the evidence presented of record in this proceeding, immunologic studies exposing isolated human

lymphocytes to magnetic fields and plant lectins (Prasad et al. 1991; Persson et al. 1991; and Yost & Liburdy, 1992) indicated some positive and some negative results (PECO Direct on Remand No. 3, p. 4), but the McLean et al. 1991 study examining tumor promotion and immune response in intact animals showed that a 20,000 milligauss 60 Hz magnetic field had no effect on host immune response when natural killer cell activity was followed (Id., p. 4).

27. Based on the evidence presented of record in this proceeding, the Electro-Magnetic Health Effects Committee of the Texas Public Utility Commission has concluded that

Research presented to date appears to reject the hypothesis that acute or prolonged exposure to EMF equivalent or several times stronger than fields experienced under high voltage AC transmission lines results in biologic disruption of endocrine or immunologic systems. (Emphasis supplied)

PECO Direct on Remand No. 3, p. 5).

28. Based on the evidence presented of record in this proceeding, a study conducted by Batelle Pacific Northwest Laboratories indicated positive results at 16 Hertz. Results of recent studies on the effects of magnetic fields on diatom mobility have given mixed results (N.T. 1540-1542).

29. Based on the evidence presented of record in this proceeding, studies examining calcium movement in cells (patch-clamp technique used by Hojevnik et al.), as well as studies that

looked at changes in the concentration of calcium within the cytoplasm on the inside of the cell, do not show changes in calcium in the presence of electric and magnetic fields (N.T. 1546).

30. Based upon the evidence presented of record in this proceeding, the Swedish residential study by Feychting and Ahlbom 1992 appears to be negative or null for all childhood cancers and childhood brain cancer and for adult brain cancer and for all forms of adult leukemia except chronic myeloid leukemia which shows a small increased for calculated fields (PECO Direct on Remand No. 4, pp. 4, 8) and appears to be weakly positive for childhood leukemia. Only 38 cases of childhood leukemia were identified in the entire study base (Id., at p. 4; N.T. 1639-1642).

31. Based on the evidence presented of record in this proceeding, in the Swedish residential study, children who had lived in the transmission corridors for the largest percentage of their lives had the smallest risk of leukemia (PECO Direct on Remand No. 4, p. 4).

32. Based on the evidence presented of record in this proceeding, while the Swedish residential study shows no association between magnetic field exposure and brain tumors in children, this result is at variance with an earlier study by

Tomenius who observed an increase in those more highly exposed and nearer to power lines (OCA Statement 1B at 4).

33. Based on the evidence presented of record in this proceeding, it appears that the National Radiological Protection Board of the United Kingdom concluded that:

In summary, the epidemiological findings that have been reviewed provide no firm evidence of the existence of a carcinogenic hazard from exposure of paternal gonads, the fetus, children, or adults to extremely low frequency electromagnetic fields that might be associated with residence near major sources of electricity supply, the use of electrical appliances, or work in the electrical, electronics, and telecommunications industry.

and with regard to recent residential studies, including the Swedish residential study that they

do not establish that exposure to EMF is a cause of cancer, although they provide weak evidence to suggest the possibility exists.

and further that the Oak Ridge Associated Universities, in reviewing the Swedish residential study, concluded:

The question whether ELF-EMF has a carcinogenic effect represents an intriguing scientific problem. ELF-EMF clearly cannot be exonerated, since very large and valid studies showing no association with cancer occurrence do not currently exist, but it is also clear that the available base of observation and theory does not satisfy major criteria for causal inference.

and in April 1993, the Panel stated:

Because the two Swedish studies were made public when the ORAU report was already in

the printing process, we consider it necessary to indicate that, in our opinion, the evidence presented in these studies is not sufficiently compelling to alter the conclusions of the ORAU report.

(PECO Direct on Remand No. 4, pp. 5-6).

34. Based on the evidence presented of record in this proceeding, the Swedish residential study does not appear to support a conclusive finding that EMF is a cause of childhood cancer (PECO Direct on Remand No. 4, p. 7).

35. Based on the evidence presented of record in this proceeding, the Swedish residential study, although superior in methodology to the earlier epidemiological studies in certain respects, does not resolve the issue of whether EMF causes adverse health effects (OCA Statement 1B at 4; N.T. 1635-1637).

36. Based on the evidence presented of record in this proceeding, a Swedish occupational study by Floderus, et al., reports a positive association between exposure to magnetic fields and the incidence of adult chronic lymphocytic leukemia (OCA Statement 1B at 4).

37. Based on the evidence presented of record in this proceeding, a preliminary report of partial results of the Olsen research, a residential case-control study of childhood cancer being conducted in Denmark, indicates that in the Danish study population, living in a home near a high-voltage electric facility is not associated with increased risk of childhood

leukemia or childhood brain tumors. The authors did report an increased risk of childhood lymphoma based on three cases (PECO Direct on Remand No. 4, p. 7).

38. Based on the evidence presented of record in this proceeding, a study in the Netherlands (Schreiber, et al., residential study 1993), which used the retrospective follow-up method, showed no association between residence near transmission facilities and cancer risk (PECO Direct on Remand No. 4, p. 8).

39. Based upon the evidence presented of record in this proceeding, two separate reports of a Polish case-control study (Gajewski et al. 1989 and Pachocki et al. 1991) indicate the residential data as being negative (PECO Direct on Remand No. 4, p. 8).

40. Based upon the evidence presented of record in this proceeding, of four recent occupational case-control studies (Gajewski et al. 1989; Richardson et al. 1992; Floderus et al. 1992; Mantanoski et al. 1993), three were described as being positive and one being negative (PECO Direct on Remand No. 4, pp. 8-9).

41. Based upon the evidence presented of record in this proceeding, the preliminary results of a retrospective follow-up study from Denmark (Griemel et al. 1992) indicate that it is negative or null for breast cancer, melanoma and brain cancer in both men and women. For leukemia, it is weakly

positive for men and negative for women (PECO Direct on Remand No. 4, p. 9).

42. Based upon the evidence presented of record in this proceeding, the results of the occupational study by Sahl et al. (1993) indicated no consistent association between any measure of workplace magnetic field exposure and leukemia, brain cancer or lymphoma risk, even among workers who had significantly higher exposures to magnetic fields. In addition, there was no evidence of a dose-response relationship and no indication that the negative results were significantly influenced by compounding or other factors (PECO Direct on Remand No. 4, pp. 10-11).

43. Based upon the evidence presented of record in this proceeding, the results of three recent publications (Novelli et al. 1991; Fiorani et al. 1992; and Otaka et al. 1992) indicated that exposure to power frequency electric and/or magnetic fields had no effects on mutations (PECO Direct on Remand No. 5, p. 2).

44. Based upon the evidence presented of record in this proceeding, a recent chromosome study, where the researchers exposed human lymphocytes and CHO (mammalian) cells to 60 Hz magnetic fields, indicated no effect on chromosomes (Livingston et al., 1991); and in a second study (Ager & Radul, 1992), no effect on chromosomes was found in cells exposed to 60 Hz magnetic fields alone and no enhancement of chromosomal damage

caused by ultraviolet radiation (PECO Direct on Remand No. 5, pp. 2-3).

45. Based upon the evidence presented of record in this proceeding, recent animal studies indicate as follows:

- (a) Mevisson et al. (1993), exposed rats to a chemical (DMBA) that induces mammary tumors, and then exposed subsets of animals to magnetic fields (including exposing one group to power frequency fields of 300,000 milligauss and another group to fields of 3-10 mG). Magnetic field exposure did not increase the number of animals that developed cancer. There were no reproducible effects that could be attributed to magnetic fields.
- (b) Rahnug et al. (1993) treated rats with a chemical (DENA) to initiate liver (hepatic) tumors, then exposed the animals to a second chemical (phenobarbital) that acts as a hepatic tumor promotor. Some of the animals were simultaneously exposed to power frequency magnetic fields. The primary endpoint measured by the researchers was the number of preneoplastic liver lesions, or "liver foci." There were no significant differences in the number of liver foci between the exposed and unexposed animals.
- (c) McLean et al. (1991) and Stuchley et al. (1992) reported no differences in tumor development between mice exposed to DMBA alone and mice exposed to both DMBA and 20,000 milligauss power frequency magnetic fields. The researchers also compared mice exposed to a tumor initiator (DMBA), and a tumor promoter (TPA), with mice exposed to these two chemicals and to a 20,000 milligauss power frequency magnetic field. Although in one experiment transient differences were seen between exposed

and control animals, there was no difference in tumor incidence between the two groups' final tumor incidence.

(PECO Direct on Remand No. 5, pp. 3-4)

46. Based upon the evidence presented of record in this proceeding, it appears that the Virginia Department of Health 1992 and 1993 reviews (Wasti, 1992 and Wasti, 1993) and the Maryland Department of Health 1992 review (Energetics, Inc. 1992) have essentially concluded that the research on EMF remains unclear, or uncertain, and that adverse human health effects of exposure to EMF have not been demonstrated (PECO Direct on Remand No. 5, pp. 4-5).

47. Based on the evidence presented of record in this proceeding, it has not been conclusively demonstrated that EMF causes adverse human health effects (PECO Direct on Remand No. 3 [Bockman], p. 5; PECO Direct on Remand No. 4 [Cole], pp. 11-12; PECO Direct on Remand No. 5 [Germann], p. 5; N.T. 1626 [Janes]; N.T. 1710-1715 [Germann]; N.T. 1656, 1667, 1670 [Cole]).

48. Based on the evidence presented of record in this proceeding, the scientific studies which have become available since the close of the record in this proceeding on February 7, 1992, and which have been discussed of record in this proceeding, do not definitively resolve the question of whether exposure to electromagnetic fields adversely affects human health (OCA Statement 1B at 4, 5).

49. Based on the evidence presented of record in this proceeding, the recent studies of possible adverse health effects from magnetic fields (or EMFs) do not form a basis for a conclusive determination that magnetic fields (or EMFs) cause or contribute to adverse health effects in humans (PECO Direct on Remand No. 3, p. 5; PECO Direct on Remand No. 4, p. 11; PECO Direct on Remand No. 5, p. 5; OCA Statement No. 1B, p. 5).

50. Based on the evidence presented of record in this proceeding, reports of independent scientific and governmental panels which have reviewed the scientific literature on EMF and possible health effects have concluded that there is no conclusive scientific basis on which to conclude that EMFs pose a health hazard (PECO Direct on Remand No. 4, pp. 5, 6; OCA Statement No. 1B, p. 2).

51. Based on the evidence presented of record in this proceeding, federal agencies are devoting increasing attention to the potential harm from exposure to power frequency and magnetic fields, in light of the Energy Policy Act of 1992 which designates the Department of Energy and the National Institute of Environmental Health Sciences as responsible for leading a five-year \$65 million effort (OCA Statement 1B at 10).

52. Based on the evidence presented of record in this proceeding, the witnesses in this remanded proceeding who addressed the issue of standards do not recommend the setting of

a right-of-way standard for the Woodbourne-Heaton line at this time (N.T. 1626-1627; PECO Direct on Remand No. 3 at 5; PECO Direct on Remand No. 4 at 12; PECO Direct on Remand No. 5 at 5; OCA Statement 1B at 10-12).

53. Based on the evidence presented of record in this proceeding, the expenditure of \$38.5 million at this time to place the line underground, without a conclusive scientific causal connection between exposure to EMFs and adverse human health effects, would not be consistent with the principle of prudent avoidance.

V. DISCUSSION

At the outset, it must be noted that in its Opinion and Order adopted March 11, 1993, at page 21, the Commission stated,

We note that the record concerning EMF has been extensively developed, but prior to our disposition of the instant matter we shall direct a limited remand. Our reopening of the record to secure an important (sic) piece of information appeals to our sense of fairness. However, we cannot go on forever in hope that the next piece of evidence or study will resolve the EMF question once and for all. While we shall direct the remand of this case to consider new evidence, it is only the unique and extremely contentious nature of this case which leads to this position.

After additional comment, the Commission, as aforesaid, remanded this case for the limited purpose of: (a) receiving evidence and comment regarding all studies of the health effects

of magnetic fields which are available on or before the hearings on that evidence commence; and (b) determining, in light of findings regarding health effects, what, if any, standards should exist for right-of-way widths for the Woodbourne Heaton 230 kV line.

In addition, the Commission specifically emphasized that no other matters are to be considered, and that the Administrative Law Judge should issue a supplemental decision concerning these additional studies and appropriate right-of-way standards within 120 days of the entry of the Opinion and Order (March 26, 1993).

Therefore, the following discussion concerning the scientific studies and the analyses thereof presented in the remanded portion of this proceeding is not intended as a complete definitive scientific analysis surveying the entire field of research on the EMF issue, but is a consideration of that material which was presented of record in the remanded proceeding. As stated in the Initial Decision, the Discussion is not presented so that a scientific conclusion can be drawn on the merits of the studies presented, but rather to consider and determine the limited issues remanded in this proceeding based upon the record evidence presented at the hearings. Thus, all of the findings, conclusions and discussion herein contained are based solely on the record evidence provided in this proceeding.

As the OTS urges, "a determination as to the appropriate regulatory response in pending and future line siting applications must await determination in these cases,¹ not the current proceeding" (OTS Reply Brief, p. 9, 11). This appears to be a judicious approach since research in the field is ongoing and physical characteristics of different proposed lines, surrounding communities and land uses may differ.

A. Recent Studies

With respect to the recent studies reviewed of record in this proceeding by the various witnesses,² Pennsylvania Power & Light (PP&L) takes the position that "... the record in the remanded proceeding, and as confirmed by reviews of independent scientists, discloses that the recent studies of possible adverse health effects from magnetic fields do not form a basis for concluding that magnetic fields (or EMFs) cause or contribute to adverse health effects in humans" (PP&L Main Brief, p. 6).

Likewise, the position of the Commission's Law Bureau is that "[a]t present, there is no conclusive evidence that electromagnetic fields (EMF) present any hazard to human health,

¹ Such as Hoffman-Minooka 138 kV line, Docket No. A-110500, F0172, et al. and the DQE/GPU case (Joint Application of Metropolitan Edison Co., Pennsylvania Electric Co., Jersey Central Power & Light Co., and Duquesne Light Co., A-110300, F051).

² These studies are reviewed at length in the Summary of Testimony section of this Supplemental Decision.

and additional studies on EMF regarding immunological, epidemiological, molecular, cellular and whole animal research presented in this remanded proceeding have not changed this conclusion, . . ." (Law Bureau Main Brief, p. 43). Law Bureau also states that "[a] review of the record reveals that the evidence, although getting stronger on the side of there being no adverse human health effects from EMF, still remains inconclusive. Therefore, the Commission's determination regarding the inconclusiveness of the evidence on the adverse health effects of EMF, as expressed in its March 26, 1993 Order, continues to be supported by substantial evidence in the instant expanded record and should be reaffirmed by this Commission" (Law Bureau Main Brief, p. 46).

So too, the position of the OCA is that the "[s]tudies available since the close of the initial record do not resolve the uncertainty concerning a connection between exposure to EMF and effects upon human health." However, OCA adds that ". . . improved methodologies are being employed and statistically significant positive results have been obtained" (OCA Main Brief, p. 10). In addition, the OCA further stated that "[t]aking the evidence on remand as a whole, it can fairly be said that despite differences in the expert witnesses' opinions concerning how the available literature in all genres material to this question

should be interpreted, we are still uncertain whether EMF causes harmful effects" (OCA Main Brief, p. 14).

PECO's position is that "[r]ecent scientific developments have provided additional evidence that EMF does not cause adverse human health effects. The recently released Swedish residential study does not support a conclusion that EMF is a cause of cancer." Finally, PECO asserts that "[f]rom the scientific studies taken as a whole, it can be fairly stated that, after extensive scientific investigation, it has not been demonstrated that EMF causes adverse human health effects" (PECO Main Brief, p. 19).

Thus, based upon the evidence of record presented at the hearings in the remanded proceeding, Law Bureau, OCA, PP&L and PECO have not changed their respective positions taken in the initial phase of this proceeding. Moreover, upon consideration of the record evidence and the arguments of the parties, the Administrative Law Judge agrees that the review of the results of the other scientific studies presented in this hearing does not alter the prior finding and conclusion that the scientific studies, testimony and evidence presented of record in this proceeding are inconclusive on the issue whether exposure to EMFs causes adverse human health effects. Therefore, the additional record evidence presented on remand does not support a finding and/or conclusion that such exposure is harmful to human health,

i.e., there has been no convincing demonstration of such causality; nor is the preponderance of the evidence sufficient to support such a finding and/or conclusion, on the record adduced in this case.

The inconclusiveness of the scientific research is demonstrated by the testimony of the various witnesses, as follows:

(1) OCA witness Janes, in testifying with respect to adult leukemia, noted that the Swedish occupational study reported a positive association between exposure to magnetic fields and the incidence of chronic lymphocytic leukemia, while in the Swedish residential study, the association appears to be negative (OCA Statement 1B, p. 4). Moreover, OCA witness Janes noted that the positive association between magnetic field exposure and childhood leukemia, and the negative association for brain tumors reported by the recent Swedish residential study are at variance with the earlier Swedish Tomenius study, reporting a lower number of leukemia cases and a higher number of brain tumors, and must be interpreted with caution (Id.). Thus, after reviewing the results of the Swedish Study and other recent epidemiology studies, witness Janes still found the state of epidemiologic research to be "confused" (OCA Statement No. 1B, p. 4).

Accordingly, OCA witness Janes concluded that without a demonstrated biophysical mechanism to connect the results of the epidemiological, animal and cellular studies, the results are not strong enough to establish a causal link (Id., p. 5). On the other hand, witness Janes expressed the opinion that the experimental evidence makes the hypothesis of harmful effects plausible and that the possibility of harm cannot be summarily dismissed (Id.). Accordingly, witness Janes stated that the Swedish Study contains "troublesome" results by which is meant that the Study contains observations that need to be looked at in more detail (Id.; N.T. 1612-13); and that his conclusion that the science is "unclear" is consistent with the statement that there has not been a demonstrable health hazard (N.T. 1626).

(2) PECO witness Cole focused principally upon three reports relevant to childhood cancer, i.e., Feychting and Ahlbom (1992), Olsen (1992) and Jones, et al. (1993) (Id., p. 2), and testified as to the Feychting and Ahlbom's Swedish residential study that the study is null or negative for adult cancer, for childhood brain cancer and for all childhood cancers, but weakly positive for childhood leukemia (Id., pp. 3-5). In reviewing the data on childhood leukemia in detail, witness Cole stated, inter alia: (a) that the Swedish study was very small for childhood leukemia, i.e., only 38 cases were included in the study (PECO Direct on Remand No. 4, p. 4; (b) in the Swedish residential

study, children who have lived near transmission lines have leukemia at the same rate as children who have not lived near transmission lines (N.T. 1684); (c) that children who have lived in the transmission corridor for the largest percentage of their lives have the smallest risk of leukemia (PECO Direct on Remand No. 4, p. 4). Thus, on direct, he concluded that:

Taken together, the epidemiologic reports fail to demonstrate any strong or consistent pattern of association between EMF and cancer in human beings. The summation can only be that, to date, there is no demonstrated relationship between EMF and cancer in human beings.

(PECO Direct on Remand No. 4, p. 11)

However, PECO witness Cole agreed that the Swedish residential study was large and complex, gave impressive attention to detail, and in some respects improves the methodology used in the earlier epidemiological research (N.T. 1635-1636). He further agreed that the Swedish residential study obtained statistically significant results for cancer risk in children in relation to calculated magnetic fields closest in time to diagnosis, Cut-off Points at 0.1 and 0.25 Microtesla. In addition, witness Cole agreed that the increased risk for childhood leukemia is statistically significant when the "relative risk" (RR) is adjusted for socio-economic status (N.T. 1641). Further, witness Cole indicated that the study showed a result "right on the threshold of statistical significance" related to increased risk

for childhood leukemia associated with the distance of a home to a power line of 0 to 50 meters (N.T. 1642-1643). In addition, witness Cole testified that there is still some evidence for and some evidence against the theory that field intensities in the work environment may play a role in cancer promotion or progression (N.T. 1652-1653). PECO witness Cole concluded:

There is no demonstrated risk of childhood cancer when actual electro or magnetic fields were measured. When surrogates such as the wire code or the estimated fields used in the Swedish study were used in the childhood studies, the data have shown a pattern of mixed results between weak positive and negative outcomes. This is not the pattern of cause and effect. I conclude that the epidemiologic evidence on EMF, when viewed as a whole, provides no persuasive scientific support for the hypothesis that EMF causes cancer in children. (Emphasis supplied)

(3) PECO witness Bockman reviewed the EMF research (PECO Direct on Remand No. 3) in the area of endocrinology and immunology testifying (a) that studies by Parkinson & Salik 1992 and Prosad et al. 1992 indicated that 60 Hz electric and/or magnetic fields do not modulate cell function or endocrine system function by altering calcium metabolism; (b) that the results of the Sorieno et al. 1992 study indicated a decrease in the number of synaptic ribbons (a neuroanatomical correlate of melatonin rhythms) in rats after 15 and 21 days of exposure to 52,000 milligauss; (c) that studies using chick embryos exposed to 60 Hz sinusoidal fields showed no significant difference between the

exposed and control groups in fetal malformation (Martin, 1992 Study) or temporal aspects of development (Koch & Koch 1991 Study); (d) that there was no association between the use of electric bed heating and congenital effects (Dbugosz et al. 1992 Study); (e) that immunologic studies exposing isolated human lymphocytes to magnetic fields and plant lectins (Prosad et al. 1991; Persson et al. 1991; and Yost & Liburdy, 1992) indicated some positive and some negative results; (f) that a study examining tumor promotion and immune response in intact animals showed that a 20,000 milligauss 60 Hz magnetic field had no effect on host immune response when natural killer cell activity was followed; (g) that results of recent studies on the effects of magnetic fields on diatom mobility have given mixed results (N.T. 1541); and (h) that studies examining calcium movement in cells (patch-clamp technique) as well as studies that looked at changes in the concentration of calcium within the cytoplasm on the inside of the cell, do not show changes in calcium in the presence of electric and magnetic fields.

Based on the foregoing, PECO witness Bockman indicated that EMF research concerning endocrine and immune functions appears to reject the hypothesis that acute or prolonged exposure to EMF results in biologic disruption of endocrine or immunologic systems. Specifically, he testified that:

Research evidence presented to date appears to reject the hypothesis that acute or

prolonged exposure to EMF equivalent or several times stronger than fields experienced under high-voltage AC transmission lines results in biologic disruption of endocrine or immunologic systems. (Emphasis supplied)

(PECO Direct on Remand No. 3, pp. 1, 4-5)

(4) PECO witness Gelmann reviewed recent EMF research on molecular genetics, cellular biology and cancer (PECO Direct on Remand No. 5) and reported (a) that the results of three recent publications (Novelli et al., 1991; Fiorani et al., 1992; and Otaka et al., 1992) indicated that exposure to power frequency electric and/or magnetic fields had no effects on mutations (PECO Direct on Remand No. 5, p. 2); (b) that a recent chromosome study, where the researchers exposed human lymphocytes and CHO (mammalian) cells to 60 Hz magnetic fields, indicated no effect on chromosomes (Livingston et al., 1991); and in a second study (Ager & Radul, 1992), no effect on chromosomes was found in cells exposed to 60 Hz magnetic fields alone and no enhancement of chromosomal damage caused by ultraviolet radiation (PECO Direct on Remand No. 5, pp. 2-3); (c) that recent animal studies indicated that rats exposed to a chemical (DMBA) that induces mammary tumors, and then exposed to magnetic fields (including exposing one group to power frequency fields of 300,000 milligauss and another group to fields of 3-10 mG) did not increase the number of animals that developed cancer and there were no reproducible effects that could be attributed to magnetic

fields; (d) that rats treated with a chemical (DENA) to initiate liver (hepatic) tumors and then exposed to a second chemical (phenobarbital) that acts as a hepatic tumor promotor and then some simultaneously exposed to power frequency magnetic fields showed no significant differences in the number of liver foci between the exposed and unexposed animals; (e) that no differences in tumor development were reported between mice exposed to DMBA alone and mice exposed to both DMBA and 20,000 milligauss power frequency magnetic fields; (f) that comparisons of mice exposed to a tumor initiator (DMBA) and a tumor promoter (TPA) with mice exposed to these two chemicals and to a 20,000 milligauss power frequency magnetic field showed no difference in tumor incidence, although in one experiment transient differences were seen between exposed and control animals (PECO Direct. on Remand No. 5, pp. 3-4); (g) that the Virginia Department of Health 1992 and 1993 reviews (Wasti, 1992 and Wasti, 1993) and the Maryland Department of Health 1992 review (Energetics, Inc. 1992) have essentially concluded that the research on EMF remains unclear, or uncertain, and that adverse human health effects of exposure to EMF have not been demonstrated (PECO Direct on Remand No. 5, pp. 4-5).

PECO witness Gelmann concluded that

. . . it is still my opinion that the scientific research provides no basis to conclude that power frequency fields cause, promote or otherwise contribute to the

development of cancer or other adverse health effects (Id., p. 5).

Thus, based upon the record in this case, the evidence on remand, some showing positive and some showing negative results, taken as a whole, still remains inconclusive on the question as to whether or not exposure to EMFs cause adverse human health effects. However, scientific research on the subject is on-going and should not be summarily disregarded or ignored. Nevertheless, as aforesaid, based solely on the testimony and evidence adduced in this case and with respect to the particular line, the additional record produced in the remanded proceeding does not support a finding of causality because of the inconclusive nature of the scientific studies when viewed in toto.

B. Right-of-Way Standards

The second issue which the Commission ordered be considered on remand is whether right-of-way EMF standards should be established for the Woodbourne-Heaton 230 kV line.

All of the science witnesses who testified at the hearings in the remanded proceeding indicated that they did not recommend establishing right-of-way width standards for the Woodbourne-Heaton line. PECO witnesses Bockman, Cole and Gelmann all testified that based on scientific and medical research, they saw no basis from which to develop an objective right-of-way width standard.

Thus, Dr. Bockman testified,

Since it is my opinion that power frequency electric and/or magnetic fields several times stronger than those experienced under transmission lines do not disrupt the Endocrine or Immune systems, I see no reason from the Endocrine or Immune science for setting such standards (PECO Direct on Remand No. 3, p. 5)

Likewise, Dr. Cole testified,

The epidemiologic research thus provides no reason to set any standards related to this line. Moreover, it does not provide any effective basis for setting such a standard (PECO Direct on Remand No. 4, p. 12).

So too, Dr. Gelmann testified,

I see no scientific or medical basis to develop a right-of-way width standard (PECO Direct on Remand No. 5, p. 5).

Additionally, OCA witness Janes, in discussing the issue of establishing a health based standard, testified that he did not recommend setting a standard for magnetic fields at the edge of the Woodbourne-Heaton right-of-way because he believed it was premature to set a health based standard because of scientific uncertainty about whether exposure to power frequency magnetic fields is harmful (OCA Statement 1B, p. 11; N.T. 1627).

As the OCA emphasizes at page 14 of its Main Brief:

. . . it is important that the Commission recognize that in light

of all of the evidence, both in the initial phase and on remand, the state of scientific knowledge cannot support the establishment of a health-based standard at this time.

Moreover, OCA witness Janes pointed out that even the two States, Florida and New York, which have adopted edge of right-of-way magnetic field standards, do not represent them as health-based (OCA Statement 1B, p. 7); that the Public Service Commissions of California and Maryland have taken the position that no standards are warranted at this time (Id., p. 7); that Colorado Public Utilities Commission has adopted a rule that stresses prudent avoidance, but sets no numerical limits (Id.); and that Ohio requires applicants for certification of electric transmission facilities to address possible health effects in consideration of EMF design alternatives (Id.). Accordingly, the OCA submitted that in light of the evidentiary record created on remand, the Commission should not set a numerical edge of right-of-way standard for the Woodbourne-Heaton line (OCA Main Brief, p. 10).

To the extent that Protestants' request, set forth in their May 14, 1993 position statement, to the effect that the overhead Woodbourne-Heaton line should be replaced with an underground line, may be construed as a right-of-way standard proposal, it is being addressed herein.

Protestants, in their May 14, 1993 position statement, proposed that the overhead Woodbourne-Heaton line should be replaced with an underground line. PECO opposed this proposal because PECO argues that (a) it is based on the assumption that adverse health effects of EMF have been demonstrated; (b) it would cost \$38.5 million at a minimum (PECO Rebuttal on Remand No. 1, p. 1) and would take at least two years to construct (Id.); and (c) it would not be consistent with the principle of prudent avoidance since the cost should not be small or modest (PECO Rebuttal on Remand No. 2, p. 4).

The Administrative Law Judge agrees that the proposal assumes that a causal connection between exposure to EMFs and adverse human health effects has been scientifically, conclusively established, which is not the case based on the evidence produced of record in this remanded proceeding; and further that the expenditure of the costs to place the line underground at this time without such scientific determination would not be consistent with the principle of prudent avoidance.

Thus, it is the position of Law Bureau, OCA, PECO and PP&L, based upon the record developed at the hearings in the remanded proceedings, that a health-based numerical edge of right-of-way standard for the line should not be established (OCA Main Brief, p. 10; PECO Main Brief, p. 24; Law Bureau Main Brief, p. 47; PP&L Main Brief, p. 11, et seq.).

Therefore, upon consideration of the testimony and evidence presented at the hearings in this remanded proceeding and the arguments of the parties, the Administrative Law Judge concludes that the testimony and evidence presented of record in this case are not sufficient to support a finding or conclusion that a right-of-way width health-based standard should be developed or adopted for the Woodbourne-Heaton 230 kV line at this time.

C. Other Recommendations of the Parties

While it is true that the Commission's Order of March 11, 1993 (entered 1993) directed "[t]hat no other matters are to be considered . . ." other than the two issues above discussed; nevertheless, the following items are related and are being brought to the attention of the Commission so that it will have the full range of positions and recommendations of the parties in order to take such action as it deems appropriate.

(1) While the OCA does not believe that the Commission should set a numerical edge of right-of-way standard in this case, OCA suggests that the Commission should proceed in another docket to fully and thoroughly address the "standards" issue, if the Commission deems that avenue appropriate (OCA Main Brief, p. 10). In this regard, OCA witness Janes set forth a manner through which similarity and prudence concepts could be incorporated into the regulatory process to set such numerical

standards (OCA Statement No. 1B, pp. 15-16) which, because of the on-going and future scientific research, should be considered an interim one, not based upon avoidance of health effects (Id., p. 16) and which should apply only to the line in question. OCA witness Janes explained the "similarity" concept by quoting Dr. Granger Morgan and his colleagues at Carnegie Mellon University, as follows:

Similarity based control sets out to make people's exposures to transmission line fields as "similar" as possible to the exposures we receive from all the other fields in our day-to-day lives: exposure from the fields from power lines out in the street, the wiring in the buildings we live and work in, and the appliance we use during the day and sleep with at night.

A similarity based approach to transmission line field control can be justified on two possible grounds:

1. "Acceptability" - In this case the argument is that the fields to which we are all exposed from other sources constitute a socially acceptable level of risk. By making transmission line field exposures similar, we make them socially acceptable,

2. "Equity" - In this case the argument is that if transmission line fields are made similar to the fields to which we are all exposed from other sources then we are not asking residents who live along transmission line right-of-ways to bear field related risks that are any different from those born (sic) by all members of modern society.

(OCA Statement No. 1B, pp. 12-13); and how prudence could be incorporated into the process, as follows:

Research into the effects of electric and magnetic fields should be continued.

The government and the industry should be aggressive in periodically informing the public about the latest information, stressing its uncertainty and changeability. This needs to be done in an absolutely impartial manner and before it is required.

The public should be involved in the decision making process before critical decisions are made. This is not at all the same thing as having public meetings or private sessions with concerned individuals to convince them after the decision is made.

At the very least, companies considering power line projects should consider the cost and effects of possible mitigative measures before any construction is decided on.

Mitigative measures that should be considered before construction begins may include, but are not limited to:

- . avoiding heavily populated areas
- . avoiding parks, schools, and other public facilities
- . widening rights-of-way
- . limiting public uses of rights-of-way
- . using higher ground clearances
- . designing the power lines to reduce the fields

In planning one should err on the side of safety, but not without considering the cost.

(OCA Statement 1B, pp. 15-16)

Finally, witness Janes stated that if the Commission

chose to establish a numerical standard for electric and magnetic fields:

First, the standard should be interim because considerable research on this issue is underway and much more is planned over the next five years.

Second, because the present record was developed for a specific 230-kV line, the standard should be specific for that line only.

Finally, it needs to be recognized and stated that the standard is not based on avoidance of health effects.

(OCA Statement 1B, p. 16)

Although the OCA witness suggested that similarity and prudence concepts could and should be recognized in developing a numerical standard, the OCA's position in the instant proceeding was specifically stated as follows:

The OCA submits that even consideration of the studies made available since the close of the evidentiary record in August, 1992, unfortunately do not resolve the uncertainty concerning EMF and possible harm to the health of those exposed to such fields. The evidence adduced on remand, therefore, is still not probative of whether a numerical standard should be established for this or any other line. The OCA, therefore, cannot recommend to the Commission that a numerical standard be established upon this evidentiary record at this time. If, however, the Commission should deem it necessary to do so, it should proceed in accordance with the recommendations of OCA witness Janes. (Emphasis supplied)

(OCA Main Brief, p. 18)

OCA also urges that the importance of applying the principles of prudent avoidance in advance of considering whether to approve a line; that public participation should be part of the regulatory process (OCA Statement 2, p. 8; OCA Statement 1B, pp. 15-16); that advance notice to adjacent landowners be provided when letter of notification procedures are invoked; and that future applicants provide actual notice to affected landowners (OCA Main Brief on Remand, p. 17).

(2) Law Bureau recommends that the Commission continue to monitor literature and new studies involving EMF by appointing a committee or contracting with an outside source to produce yearly updates on EMF research for release to the public, and states that although ". . . the Prosecutory Staff has not extensively explored the possibilities, we surmise that the electric industry may be willing to finance such an activity" (Law Bureau Main Brief, p. 46).

Law Bureau also states that it favors the prudent avoidance concept on a case by case basis in the face of the scientific uncertainty concerning EMFs (Law Bureau Main Brief, pp. 48-49) and can also consider the factors recommended by OCA witness Janes.

Further, the Law Bureau states that it does not support the establishment of EMF standards for transmission lines, but it does see the value in comparing EMF from a specific line with

those from typical lines in the same voltage class so that individual efforts at exercising prudent avoidance can be evaluated in the context of a typical line. To that end, Law Bureau recommends that the Commission establish a data registry of expected and actual electric and magnetic fields for all future lines, and the Commission could require utilities to include in future transmission line filings a statement of the expected EMF level from a line (and each alternative of the line considered) under normal operational loading. Law Bureau also suggests that within thirty days of a line's being placed in service, the utility could be required to report the actual readings at standard distances of 0, 50, 150 and 250 feet from the right-of-way centerline. Law Bureau further suggests that the Commission's Bureau of Conservation Economics and Energy Planning be given the responsibility for maintaining this data registry which will enable the Commission to evaluate compliance with prudent avoidance and to promulgate right-of-way standards should a scientific causal relationship be established between EMF and adverse health effects (Law Bureau Main Brief, pp. 50-51).

As aforesaid, however, Law Bureau's position in the instant matter is that neither right-of-way standards nor edge of right-of-way field measurement limitations should be established for the Woodbourne-Heaton line since the record on remand does

not contain evidence to support the establishment of such standards (Law Bureau Main Brief, p. 47) 'because of the inconclusive nature of the scientific evidence on EMF (Id., p. 48).

(3) Protestants have proposed that PECO should purchase "all properties any portion of which would be within levels above one milligauss more than 5% of the time (Protestants' May 14, 1993 position statement). PECO urges that the Commission reject this proposal because (a) it is based on the assumption that adverse human health effects from exposure to EMF has been demonstrated; (b) the proposal would be very costly, i.e., over \$160 million at a minimum (PECO Main Brief, pp. 26-27; PECO Rebuttal on Remand No. 3, p. 1; N.T. 1594-1597); (c) the proposal is not consistent with the concept of prudent avoidance since, inter alia, the \$160 million cost goes well beyond the "small or modest" costs consistent with the principle of prudent avoidance (PECO Rebuttal on Remand No. 2, p. 4); and (d) for that portion of the property which is residential, PECO would not be able to exercise eminent domain due to the statutory restrictions on condemnation of residences and land within a 100 meter curtilage; and thus would require additional legislation (PECO Rebuttal on Remand No. 3, p. 2)

(4) Protestants have also proposed that the Commission allow hearings on the need for the line as well as alternative

locations. Law Bureau responds, inter alia, that evidence in support of need for the line was submitted by PECO, and considered by the Commission in its February 3, 1990 Order approving PECO's Letter of Notification (Law Bureau Reply Brief on Remand, pp. 4-7); and further that a utility filing a letter of notification is not required to include information about alternative routes (52 Pa. Code §57.72(d); Law Bureau Reply Brief on Remand, p. 9, n. 2).

Protestants again assert that the case be reopened under Commonwealth Court Judge Palladino's June 14, 1991 Order (No. 701 C.D. 1991, May 24, 1991). Law Bureau responds that the Order did not direct the Commission to reopen the proceeding for a full hearing, but that the Commission provide Protestants with an opportunity for hearing on how they would be adversely affected by the energization of the line (Order, p. 2; Law Bureau Reply Brief on Remand, p. 8), which hearing was afforded them.

Protestants further argue that the Commission should direct that the utility compensate Protestants in the amount of \$100,000 for the development and prosecution of their case to date, and to be drawn upon for future participation, including counsel and expert fees. Law Bureau responds that the request may be construed as a request for damages and is outside the scope of Commission authority to grant, citing Feingold v. Bell Telephone Co. of Pa., 477 Pa. 1, 383 A.2d 791 (1977); Elkin v.

Bell Telephone Co. of Pa., 49 Pa. 123, 420 A.2d 371 (1980). Moreover, Law Bureau asserts that the Judicial Code, 42 Pa. C.S. §2503 does not authorize the Commission to award attorneys' fees. See, Duquesne Light Company v. Pa. P.U.C., 117 Pa. Commonwealth Ct. 28, 543 A.2d 196 (1988), appeal granted, 521 Pa. 632, 558 A.2d 533 (1989); Pleasant Valley School District v. Department of Community Affairs, 127 Pa. Commonwealth Ct. 85, 560 A.2d 935 (1980). Nor does the Public Utility Regulatory Policy Act (PURPA), 16 U.S.C. §§2601 et seq., provide a basis for payment of such fees (Law Bureau Reply Brief on Remand, pp. 10-13).

(5) PP&L, in addition to urging the Commission to authorize PECO to energize the Woodbourne-Heaton line without further delay (PP&L Main Brief, pp. 16-18) also recommends that the Commission:

- (a) institute either a policy statement proceeding or a rulemaking proceeding to mandate that all electric utilities in the Commonwealth adopt a comprehensive EMF policy, as follows:

- (i) Support for EMF Research

Electric utilities, through support of the Electric Power Research Institute (EPRI) and other means, shall support research into EMFs, EMF management and reduction technologies and possible health effects of EMFs.

- (ii) Dissemination of EMF Information

Electric utilities shall prepare and make available to the public easily understandable information about EMFs and the results of research into possible human health effects of EMF. Electric utilities shall regularly update these materials as new scientific evidence becomes available.

(iii) Provision of EMF Measurements

Electric utilities shall provide or arrange for EMF measurements for any customers or affected property owners who request such measurements.

(iv) Establishment of Magnetic Field Management Plan

Electric utilities shall establish flexible plans for reducing Magnetic Fields and exposure to Magnetic Fields at low cost or no cost, where practicable, in new or reconstructed transmission lines. An electric utility's Magnetic Field Management Plans shall include, at a minimum, the following elements: consideration of transmission line design and construction techniques which could reduce Magnetic Fields at low or no cost, such as alternative line configurations and higher ground clearances, and consideration of population density and location of public facilities in the route selection and evaluation process. Electric utilities shall include in all siting applications and letters of notification information explaining application of their Magnetic Field Management Plans.

(v) Involvement of the Public in the Transmission Line Siting Process

Electric utilities shall involve the public directly at each stage of the transmission line siting process, namely the gathering of data, the selection of alternative routes and the selection of preferred routes. EMFs and EMF Management Plans and techniques shall be considered and discussed with the public at all stages of the siting process.

The suggested EMF policy, according to PP&L, addresses public concerns about EMFs and is consistent with the principle of prudent avoidance.

- (b) Expressly state that any transmission line siting proceeding either currently pending or filed before the final promulgation of the policy statement or regulations, will not be delayed but will be decided on its individual merits as is current Commission practice.

VI. CONCLUSIONS OF LAW

1. The Commission has jurisdiction over the parties and subject matter of this proceeding.

2. The record evidence presented of record in this remanded proceeding, when viewed in totality, does not support a finding or conclusion that there is a causal connection between exposure to EMFs and adverse human health effects because of the continued inconclusiveness of the scientific research and studies.

3. Establishment of specific numerical edge of right-of-way standards as to the Woodbourne-Heaton transmission line is not supported by the evidence of record in this proceeding.

4. The Commission does not have jurisdiction to award attorney's fees and costs. Pa. P.U.C. v. Duquesne Light Co., 61

Pa. P.U.C. 485 (1986); Pa. P.U.C. v. National Fuel Gas Distribution Corp., 63 Pa. P.U.C. 68, 71 (1987).

5. The Commission has no jurisdiction to award condemnation damages. Commission's March 8, 1991 Order, p. 10, n. 9 and p. 13, n. 11.

VII. ORDER

THEREFORE,

IT IS ORDERED:

1. That by reason of the fact that the additional scientific research and studies presented of record at the hearings in the remanded proceeding do not support a finding or conclusion that there is a conclusive causal connection between exposure to EMFs and adverse human health effects because of the inconclusive nature of said research and studies, when viewed in totality, the Commission's February 9, 1990 Order approving the Letter of Notification filed by the Philadelphia Electric Company for the Woodbourne-Heaton Line is hereby affirmed; provided however that should a conclusive causal connection between exposure to EMFs and adverse human health effects be scientifically established in the future, the Commission may require the Philadelphia Electric Company to make such changes, modifications and/or alterations to the Woodbourne-Heaton Line and/or its operation as the Commission may deem just and reasonable in the public interest; and further provided that the

Woodbourne-Heaton Line must be operated and maintained in compliance with the National Electrical Safety Code and with all applicable statutes, regulations and codes for the protection of the public and the natural resources of the Commonwealth of Pennsylvania.

July 15, 1993

Date

Herbert Smolen

HERBERT SMOLEN
Administrative Law Judge

Act 294

Case Identification:

A-110550F055; Letter of Notification of Philadelphia Electric Company relative to reconductoring and rebuilding of the existing 128 kV line to operate as the Woodbourne-Heaton 230 kV line

Initial Decision By:

ALJ Herbert Smolen

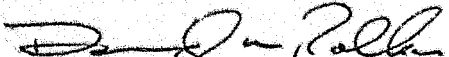
Deadline for Return to OSA:

August 9, 1993

This decision has not been reviewed by OSA.

* * * * *

I want full Commission review of this decision.



Commissioner

8-6-93

Date

I do not want full Commission review of this decision.

Commissioner

Date

Act 294

Case Identification:

A-110550F055; Letter of Notification of Philadelphia Electric Company relative to reconductoring and rebuilding of the existing 128 kV line to operate as the Woodbourne-Heaton 230 kV line

Initial Decision By:

ALJ Herbert Smolen

Deadline for Return to OSA:

August 9, 1993

This decision has not been reviewed by OSA.

RECEIVED

AUG16 1993

OFFICE OF SPECIAL ASSISTANTS

* * * * *

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X Joseph P. Bludis, Jr.
Commissioner

8/13/93
Date

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Commissioner

Date

Act 294

Case Identification:

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Initial Decision By:

ALJ Herbert Smolen

Deadline for Return to OSA:

August 9, 1993

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I want full Commission review of this decision.

X

Herbert Smolen

Commissioner

8-3-93

Date

I do not want full Commission review of this decision.

Commissioner

Date

Act 294

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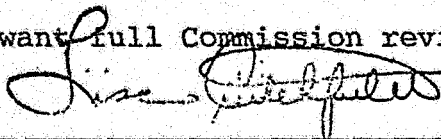
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Commissioner

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Initial Decision By:

ALJ Herbert Smolen

Deadline for Return to OSA:

August 9, 1993

This decision has not been reviewed by OSA.

* * * * *

I want full Commission review of this decision.

John Hunger
Commissioner

8-11-93

Date

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Commissioner

Date

ORIGINAL

Commonwealth Of Pennsylvania
The Public Utility Commission
The Secretary Of The Commission
Room B-18 North Office Building
North Street & Commonwealth Ave.
P.O Box 3265
Harrisburg, Pa. 17105-3265

July 30, 1993

RECEIVED
JUL 30 1993
SECRETARY OF THE
PUBLIC UTILITY COMMISSION

SUBJECT: Docket No: A-110550F055 PECO's 230K Line

Reference: EXCEPTION OF DECISION BY JUDGE HERBERT SMOLEN
Transcript Dated July 23, 1993

EXCEPTION

Dear Secretary Of The Commission:

Let this letter serve as official notification that both William J. Harley and Barbara J. Harley take exception to Judge Smolens ruling regarding inclusive evidence between EMF's and their possible human health effects.

We base our exception due to the fact that the Public Utility Commission would not allow the public hearings to be extended until all the evidence could be heard by Judge Smolen. The PUC's own Office Of Trail Staff (OTS) stated that they required more time to present their witnesses but were denied. In all fairness, how can a decision be reached if the opportunity is not given to hear all the evidence.

We feel that the transcript provided on July 13th is one sided without opening the hearings, regardless of your time frame, to allow all the witnesses to be heard. It is our understanding that in addition to the OTS witnesses, Dr. Samuel Milham, a Washington epidemiologist, was prepared to testify that any EMF emission over one (1) milligauss is dangerous. The EMF's from PECO's line is expected to measure 24 milligauses at the end of their rightaway which is the beginning of my property.

DOCKETED
AUG 19 1993

continued

DOCUMENT
FOLDER

SUBJECT: Docket No: A-110550F055 PECO's 230K Line
Reference: EXCEPTION OF DECISION BY JUDGE HERBERT SMOLEN
Transcript Dated July 23, 1993

I would like to submit (attached) the most recent Bucks County Courier Times Articles plus our FAX letter to the PUC that reinforces our position regarding the proposed energizing of the PECO power lines:

Attachments:

- 1: July 27th Courier Editorial - PUC empowers opponents.
- 2: July 27th Courier Editorial - Setback won't end fight.
- 3: July 27th FAX to PUC & OTS - From William & Barbara Harley
- 4: July 29th Courier Article - PECO has less to loose.
- 5: July 29th Editorial - EMF & Lesson Of Agent Orange.

Throughout the hearings, PECO stressed to practice prudent avoidance to EMF's. How can we practice prudent avoidance when the EMF level in our yard is expected to be 24 milligauss, without any thing short from being forced to move.

Is PECO and the PUC prepared to incur any financial loss a homeowner incurs selling their home due to the fact the selling price must be low enough to offset the concern of buying with a power line directly behind your property line? Are both PECO and the PUC prepared for future lawsuits when it is proven to your satisfaction, if any proof will ever satisfy PECO, that EMF's are associated with human health effects as Agent Orange just this week was proven to cause three variations of cancer?

We strongly urge that the Public Utility Commission reconsider powering up these lines at this time. The hearings should be allowed to open up once again to allow all the evidence to be heard prior to any recommendation by the Judge or the Public Utility Commission.

Attachment To Letter -5-
Total Pages -7-
Nine Copies Enclosed

Sincerely,

William J. Harley
Barbara J. Harley

William J. Harley
Barbara J. Harley
1660 Bonnie Brae Drive
Huntingdon Valley, Pa.
19006-1304

THURSDAY, JULY 29, 1993

BUCKS COUNTY
Courier Times

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Reopen the hearings

EMFs and lesson of Agent Orange

The Public Utility Commission should reopen hearings for the proposed Philadelphia Electric Co. high-voltage power line that would stretch 13 miles through Bucks and Montgomery counties.

The PUC should do so because it closed the hearings without hearing all the evidence on the safety of electromagnetic fields emitted by power lines.

The PUC should reconsider shutting out the public, even though its administrative law judge just recommended PECO get approval to juice up the line.

In addition to the argument of fairness, there's one of sense, illustrated by the latest victory for veterans exposed to Agent Orange. They've been battling 20 years for acknowledgment of the peril.

Scientists just gave vets new recognition that the defoliant — sprayed in Vietnam — can be linked with three kinds of cancer and two skin ailments.

Because the government has accepted the persuasiveness of that science, veterans will be eligible for government compensation for two more kinds of Agent Orange-related cancer.

In the case of EMF safety, the PUC's own Office of Trial Staff asked for more time to prepare such expert witnesses. The OTS said PUC red tape kept it from having those experts ready quickly. The PUC said tough luck. Then the PUC

judge ruled in favor of PECO.

Until the PUC allows its judge to rule on all the evidence, including experts hired by the OTS and preferred by PAUSE, the PUC only can appear to be a pawn of the utilities.

Worse, what happens if, as in the case of Agent Orange, proof becomes available two decades hence? If the PUC acts cautiously now, it could avoid the potential for lawsuits later.

Even if no one conclusively proves the dangers of EMFs, the science of power-line critics might be accepted as truth. Agent Orange producers insist the latest findings represent "nothing new." Yet the U.S. government is acting on those findings. How will PECO have protected its investment if it incurs liability for health problems that some scientists can link to its power line?

For fairness, for practicality, for economics, the PUC should listen to what all experts have to say before it decides whether PECO can electrify neighborhoods down the line, including those in Middletown and Lower Southampton.

"I still want to find out the bottom line: Is this line safe or not?" said Carole Dempsey of Lower Southampton, treasurer of People United Against an UnSafe Environment.

If the PUC continues along the same power-hungry line, Dempsey will get her way — but as a guinea pig.

THURSDAY, JULY 29, 1993

BUCKS COUNTY COURIER TIMES 7A

PECO has less to lose

Re a July 25 article, it is worth noting that Philadelphia Electric Co., while espousing the principles of prudent avoidance to power lines and electromagnetic fields, seems to sneer at individuals who try to practice avoidance. In one of its legal briefs following the last round of hearings in May, PECO again suggested people practice prudent avoidance but view those who decided to move away from the lines as "imprudent."

Who is PECO to determine what is the best for our families? PECO's investment in the Woodbourne-Heaton line is minimal when compared with the sum total of its assets. However, we, as private citizens, consider our families, our homes and our health as our most valued, and in most cases, our only possessions.

It is unfortunate that expert witnesses on behalf of consumers were unavailable to air their interpretation of the Swedish studies. They would have been as passionate as PECO's witnesses but in support of the Swedish government's actions and appalled at PECO's lack of concern in installing a line so close to residential homes.

Dr. Samuel Milham, a Washington epidemiologist, was prepared to testify that any EMF emission over one milligauss is dangerous. The EMF's from PECO's line is expected to measure 24 milligauses.

Bill and Barbara Harley
Huntingdon Valley

BUCKS COUNTY
Courier Times

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Public unplugged

**PUC empowers
 citizens' opponents**

ZAP! That's the sound of the public interest, which just got fried by the state Public Utility Commission.

Philadelphia Electric Co. won a giant power boost in its plan for a 230,000-volt transmission line that stretches from Bucks County to Montgomery County.

PUC Administrative Law Judge Herbert Smolen recommended the PUC let PECO flick the switch on the line from Middletown to Upper Moreland.

In his ruling, Smolen uses reasoning that at first sounds fair. But the judge, forced by the PUC's decision to cut off expert testimony, only had so much evidence to work with.

Smolen would allow changes in the line if high-tension power lines are proved and the electromagnetic fields they create prove to be a health hazard — as line-opponents in Middletown and Lower Southampton believe.

But Smolen denied a request from local activists PAUSE (Parents Against an UnSafe Environment) that PECO either bury the line or buy properties around the right-of-way.

Smolen said the proposal "assumes that a causal connection between exposure to EMFs (electromagnetic fields) and adverse human health effects has been scientifically conclusively established, which is not the case."

There's one gaping hole in that conclusion. Smolen couldn't consider evidence from experts who might have been more convincing.

Citizen opponents came up short

when trying to hire from a limited pool of experts on the dangers of EMFs because the PUC Office of Trial Staff had first pick.

Citizens didn't protest, however, expecting the science wouldn't change with the employer. But when the OTS got strung up in PUC red tape while trying to prepare witnesses, the PUC refused its own staff an extension in the hearing schedule.

No wonder Dorothy English, PAUSE sounding member, said, "I think we were set up by the PUC."

Despite the citizens' efforts to give themselves a voice, their official representatives — the PUC — cut off their tongues.

How can Judge Smolen's recommendation be an accurate one when all the evidence has yet to be heard, and when his boss, the PUC, prevented that evidence from coming before him?

The shame is that until science proves the danger or safety of high-tension power lines, property values along the line remain at risk.

The PUC had an obligation to provide its judge with all evidence pertinent — not just that which fit into its hearing schedule.

A simple extension would have given any PUC decision at least the appearance of fairness.

Now, unless the PUC ignores Smolen's recommendation and turns down PECO, critics have every right to assume the PUC has turned itself into a Utility Commission, and its interests from the public to private gain.

POOR ORIGINAL

POOR ORIGINAL

Setback won't end fight against power lines

By Jim Provanca
Calkins Newspapers
HARRISBURG

The attorney for a citizens group battling Philadelphia Electric Co. over a new power line said yesterday he doesn't know where the 3-year-old battle will lead next.

A Public Utility Commission administrative law judge last week recommended the commission give PECO permission to power up the 13-mile, 230,000-volt line from Middletown to Upper Merland, Montgomery County.

The PUC is expected to make a final decision in about two months. "The PUC is just behaving totally

inappropriately, taking away people's property and health by simply wearing them down," said Robert Sugarman, attorney for Parents Against Unsafe Environment. "I blame the commission, not the administrative law judge, although I don't understand how he could have shifted from saying there was an effect (associated with electromagnetic fields) to saying there should be no standards."

Following a series of hearings in the PECO case, administrative law judge Herbert Smolen had asked the commission to set statewide standards on how power companies should mitigate the effects of EMFs, which some studies have suggested can make biological changes in the body,

possibly causing cancer.

The PUC then dropped the issue back in Smolen's lap by ordering him to hold additional hearings specifically on the EMF issue and make recommendations, if deemed necessary, on what standards the utility should meet in that case alone.

Smolen last week determined the EMF issue remains too vague a base on which to set standards.

Sugarman has argued that PECO should reimburse PAUSE \$100,000 for the group's legal fees and expenses in producing expert witnesses for the numerous hearings that had taken place in the case.

But Smolen determined that the fees might be construed as damages.

which, he said, the PUC does not have the authority to award.

"These people are forced to pay the utility's bill," Sugarman said. "It all goes into their (electric) bill. These people are then supposed to pay again to defend themselves. It's a double penalty."

"We already won one round (in Commonwealth Court), in which we showed we had not been fairly treated. Now we're being told to fight repeatedly at our own expense. We don't have the assets that the utility has."

When contacted for reaction, PECO spokesman Michael Wood said,

"It would be inappropriate for us to assume the cost of litigation, particularly the litigation we win. In only those cases where we agree to pay, litigation would contribute to our overall operational costs."

"It all came down to dollars and cents, and who had the most to spend on expert witnesses," said Carole Dempsey of Lower Southampton, PAUSE treasurer.

When asked if she were prepared to continue the battle, Dempsey said, "Monetarily, I'm not, but I want to move ahead with this. I'm still interested in finding out the bottom line: Is this line safe or not?"

FAX COMMUNICATOR
717-787-4193

PLEASE DELIVER TO:

Chairman Hon. David R. Rolka
Vice Chairman Hon. Joseph Rhodes Jr.
Commissioner Hon. John M. Quain
Commissioner Hon. John Hanger

PLEASE COPY TO:

Sr. Prosecutor Robert F. Frazier (OTS)
Chief Prosecutor Charles Hoffman (OTS)

Public Utility Commission
P.O. Box 3265
Harrisburg, Pa. 17105-3265

July 27, 1993

Subject: PECO Woodbourne Project - Docket No: A-110550F055
Reference: Courier Editorial Dated July 27th Attached

Dear Member Of The Public Utility Commission,

We are appalled that your office has refused to lift the timetable for allowing all the evidence to be heard pertaining to EMF's and their potential health hazards. It is our understanding that you even ignored your own Office Of Trial Staff in extending the hearings so additional evidence on EMF health effects could be heard by Judge Smolen. Your own Office Of Trial staff had argued that the current hearing schedule does not provide enough time for them to work through the regulatory red-tape of arranging for experts to testify.

I believe the attached Courier Times Editorial dated July 27th. addresses our feelings entirely.

During the hearings, PECO constantly noted the principles of prudent avoidance to power lines and electromagnetic fields, yet still have been given the right by Judge Smolen to power up the lines based upon your approval. I ask, how does a home owner practice prudent avoidance of 24 milligauss at our property line with anything short of trying to sell your home and move. Until your office limited the time table for the hearings, Dr. Samuel Milham, a Washington epidemiologist, was prepared to testify that any EMF emission over one milligauss is dangerous.

Who is PECO to determine what is best for our families? PECO's investment in the Woodbourne-Heaton line is minimal when compared with the sum total of their assets. On the other hand, we as private citizens considers our families, our homes and our health as our most valued, and in most cases, our only possessions.

cc: Bucks County Courier
Editor FAX 215-949-4122

Sincerely,

William J. Harley
Barbara J. Harley

William & Barbara Harley
1660 Bonnie Brae Drive
Huntingdon Valley, Pa.

ROBERT R. FLECK

ATTORNEY AT LAW

115 EAST MAPLE AVENUE
LANGHORNE, PA 19047

OFFICE 215-750-7210
FACSIMILE 215-750-9062

ORIGINAL

NEW JERSEY OFFICE
22 EAST VIRGINIA AVENUE
HAVEN BEACH, NEW JERSEY 08008
609-492-2421

August 5, 1993

BTL

Secretary of the Commission
P.O. Box 3265
Harrisburg, PA 17105-3265

RE: Letter Notification of Philadelphia
Electric Company Relative to Reconductoring
and Rebuilding of the Existing 128kV Line to
Operate as the Woodbourne-Heaton 230 kV Line
No. A-110550F055

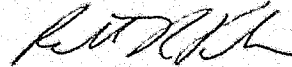
RECEIVED
AUG 5 1993
SECRETARY'S OFFICE
Public Utility Commission

Dear Sir/Madam:

Enclosed please find original and nine (9) copies of
the Exceptions of the Township of Lower Southampton in the above-
referenced matter. Kindly file same of record.

DOCUMENT
FOLDER

Very truly yours,



ROBERT R. FLECK

RRF:aew
Enclosures

cc: Attachment

U.S. POSTAL SERVICE		CERTIFICATE OF MAILING	
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One piece of ordinary mail addressed to:		Secretary of the Commission	
		P.O. Box 3265	
		Harrisburg, PA 17105-3265	

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BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

RECEIVED

AUG 5 1993

SECRETARY'S OFFICE
Public Utility Commission

Letter Notification of Philadelphia :
Electric Company Relative to
Reconductoring and Rebuilding of the :
Existing 128 kV Line to Operate as
the Woodbourne-Heaton 230 kV Line :

A-110550

DOCKETED

EXCEPTIONS OF THE TOWNSHIP OF LOWER SOUTHAMPTON

AUG 24 1993

The Township of Lower Southampton, by its undersigned attorney, takes exception to the initial decision of Administrative Law Judge Herbert Smolen in this matter pursuant to 52 Pa. Code 5.533 as follows:

1. On page three (3) of this decision, Administrative Law Judge Herbert Smolen stated, "hearings for the introduction of written direct and rebuttal testimony and cross-examination thereon were held in Philadelphia on May 27, 28, and June 1, 1993." However, the notice the Township of Lower Southampton received from the Pennsylvania Public Utility Commission concerning this matter stated that hearings would be held on May 27-28, June 1-4 and June 7, 1993. A true and correct copy of the notice is attached hereto, made a part hereof, and marked as Exhibit "A". Therefore, the Township of Lower Southampton takes exception to the fact that hearings were not held on June 2, June 3, June 4, and June 7, 1993 even though the notice from the Pennsylvania Public Utility Commission stated that hearings would be held on those specific dates.

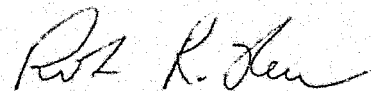
2. The Pennsylvania Public Utility Commission

DOCUMENT
FOLDER

remanded this matter to the Office of Administrative Law Judge for the purpose of "receiving evidence and comment regarding all studies of the health effects of magnetic fields which are available on or before the hearings on that evidence commence." However, since hearings were not held on June 2, June 3, June 4 and June 7, 1993, it is very questionable whether Administrative Law Judge Herbert Smolen received all evidence and comment regarding all studies of the health effects of magnetic fields which are available. Therefore, the Township of Lower Southampton takes exception to Administrative Law Judge Herbert Smolen's conclusions of law on page 89 and order on page 90 that present scientific research does not support a finding or conclusion that there is a conclusive causal connection between exposure to EMFs and adverse human health effects since it is doubtful whether all evidence that was intended to be presented was indeed received by Administrative Law Judge Herbert Smolen for his examination.

WHEREFORE, the Township of Lower Southampton respectfully requests that the initial decision of the Administrative Law Judge Herbert Smolen does not become final.

Respectfully submitted,



ROBERT R. FLECK, Esquire
Solicitor for
The Township of Lower
Southampton

CERTIFICATE OF SERVICE

I hereby certify that I am serving, this day, the foregoing document(s), either personally, by FAX and/or by first class mail upon the persons listed below:

Paul R. Bonney, Esquire
Philadelphia Electric Company
2301 Market Street
Post Office Box 8699
Philadelphia, PA 19101

Honorable Roy Reinard
Post Office Box 5
Main Capitol Building
Harrisburg, PA 17120

Tanya J. McCloskey, Assistant
Consumer Advocate
Irwin Popowsky, Consumer Advocate
Office of Consumer Advocate
1425 Strawberry Square
Harrisburg, PA 17120

Brian L. Mook, Twp. Manager
Township of Upper Moreland
117 Park Avenue
Willow Grove, PA 19090

Robert R. Fleck, , Solicitor
Lower Southampton Township
115 E. Maple Avenue
Langhorne, PA 19047

Kathleen R. Goldhahn, Manager
Dennis O'Brien, Chairman
Lower Southampton Township
1500 Desire Avenue
Feasterville, PA 19047

Joseph M. Seborowski, Chairman
Lower Southampton Township
Planning Commission
1500 Desire Avenue
Feasterville, PA 19047

Robert M. Pellagrino, Twp. Manager
David Shafter
Jerry S. Goldman
Upper Southampton Township
939 Street Road
Southampton, PA 18966

Patricia Krise Burket, Esquire
Pa. PUC Law Bureau
Post Office Box 3265
Harrisburg, PA 17105-3265

Arundhati Khanwalkar, Esquire
Jesse A. Dillon, Esquire
Pennsylvania Power & Light Company
Two North Ninth Street
Allentown, PA 18101-1179

Ward L. Smith
Tom Watson
c/o Crowell & Moring
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Washington, D.C. 20004

J. D. Cossel
C. W. Wogan
CONRAIL, Room 1200
15 North 32nd Street
Philadelphia, PA 19104

Catherine Anne Porter, Esquire
Schneider & Porter
198 North Pine Street
Langhorne, PA 19047

Charles Esaylian, Chairman
Lower Moreland Township
Planning Commission
640 Red Lion Road
Huntingdon Valley, PA 19066

Andrew L. Warren
Chairman of Commissioners
County of Bucks
Main and Court Streets
Doylestown, PA 18901

Robert E. Moore, Exec. Director
County of Bucks
Planning Commission
Almshouse Road
Weshaminymanor Center
Doylestown, PA 18901

CERTIFICATE OF SERVICE (Con't)

Arthur F. Loeben, Commissioner
Montgomery Co. Planning Comm.
Montgomery Plaza
Suite 207, Airy & Swede Streets
Norristown, PA 19404

Arthur A. Davis, Secretary
Pa. Dept. of Environmental
Resources
Bureau of Environmental Planning
16th Fl., Market St. State
Office Building
444 Market Street
Harrisburg, PA 17120

Kathy Horwalt, Council President
Borough of Langhorne
114 East Maple Avenue
Langhorne, PA 19047

Elsie Knight, Chairperson
Borough of Langhorne
Planning Commission
151 West Maple Avenue
Langhorne, PA 19047

Howard Yerusalim, P.E., Secretary
Pa. Department of Transportation
Room 1200
Transportation & Safety Building
Harrisburg, PA 17120

Vivian Piasecki, Chairman
Pa. Historical & Museum Commission
Post Office Box 1026
Harrisburg, PA 17120

Clark Weitz, Chairman
Middletown Twp. Planning Commission
2140 Trenton Road
Levittown, PA 19056

W. Edwin Ogden, Esquire
Jeffrey A. Franklin, Esquire
Ryan, Russell & McConaghy
530 Penn Square Center
Post Office Box 8281
Reading, PA 19603-8281

John Hocker, Leasing Rep.
Dept. of General Services
Bureau of Real Estate
Room 503, North Office Building
Harrisburg, PA 17105

D. Bruce Townsend, Twp. Manager
Northampton Township
55 Township Road
Richboro, PA 18954

Walter C. Evans, Township Planner
Northampton Township
55 Township Road
Richboro, PA 18954


Jerry S. Goldman, Chairman
Upper Southampton Township
Planning Commission
939 Street Road
Southampton, PA 18966

John S. Burke, Twp. Manager
Middletown Township
Planning Commission
2140 Trenton Road
Levittown, PA 19056

Alison D. White, Twp. Manager
Lower Moreland Township
640 Red Lion Road
Huntingdon Valley, PA 19066

William & Barbara Harley
1660 Bonnie Brae Drive
Huntingdon Valley, PA 19006-1304

Robert J. Sugarman, Esquire
Sugarman & Associates
7th Fl., Robert Morris Building
100 North 17th Street
Philadelphia, PA 19103


Robert R. Fleck, Esquire
Solicitor, Lower Southampton Township

Dated: August 5, 1993

A-110550F055

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA PUBLIC UTILITY COMMISSION
P.O. BOX 3265, HARRISBURG, PA 17105-3265
April 13, 1993

APR 15 1993

In Re: A-110550F055

Charles O. Marte, Jr., Esquire
Solicitor
Lower Southampton Township
344 South Bellevue Avenue
Langhorne, PA 19047

Letter of Notification of Philadelphia Electric Company

Relative to reconstructing and rebuilding of the existing 138 KV line to operate as a Woodbourne-Heaton 230 KV line in Montgomery and Bucks Counties.

NOTICE

This is to inform you that further hearings on the above captioned case will be held Thursday, Friday, May 27-28, 1993 at 10:00 a.m., Tuesday-Friday, June 1-4, 1993 at 10:00 a.m. and Monday, June 7, 1993 at 10:00 a.m. in Room 1306, Philadelphia State Office Building, Broad and Spring Garden Streets, Philadelphia, Pennsylvania.

The presiding officer in this proceeding is Administrative Law Judge Herbert Smolen. Judge Smolen can be contacted at 1302 Philadelphia State Office Building, Broad and Spring Garden Streets, Philadelphia, Pennsylvania 19130; telephone (215) 560-2105.

EXHIBIT "A"

DOCUMENT
FOLDER

ORIGINAL

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AUG 12 1993

SECRETARY'S OFFICE
Public Utility Commissioner

August 6, 1993

A-110550F055

DOCKETED

AUG 24 1993

Commonwealth of Pennsylvania
Public Utility Commission
The Secretary of the Commission
Room B-18, North Office Building
North Street and Commonwealth Avenue
P.O. Box 3265
Harrisburg, Pennsylvania 17105-3265

RE: Letter of Notification of Philadelphia Electric
Company relative to reconductering and rebuilding
of the existing 128kV line to operate as the
Woodbourne-Heaton 230kV line.

Dear Secretary of the Commission:

As a protestant I have exception to the ruling as a whole in that the hearings were worthless in that they were one-sided. How does one expect to get the results and/or the perceived results of the studies and information available, when the information and studies are being interpreted by persons who are subsidized and paid for by the utility either directly or indirectly. Of course the findings are going to be slanted and biased on the part of the utility lest the experts stop receiving funding and are no longer called on to testify at a lost of most, if not all, of their income.

It is quite unfortunate that when a consumer/public organization attempts to do something in the correct manner, not only are they are not afforded the means of doing so, but they are also up against the Commission that supposedly represents them. In light of the fact that the OTS expert was not given the opportunity to testify, Judge Smolen must know that the evidence that he heard was totally canted on behalf of the utility. How could Judge Smolen have possibly made a decision without collecting all of the evidence, or did he? It is interesting that numerous times throughout the decision that Judge Smolen uses the phrase "Based on the evidence presented of record in the proceeding..." This would certainly indicate that Judge Smolen did not hear all of the available evidence.

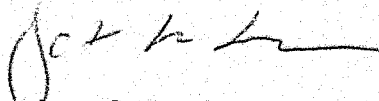

On page #49, #7, " Based on evidence presented of record in this proceeding, it is not possible at this time to state that exposure above a certain electromagnetic field level will have an adverse effect on health or that exposures below a certain level are completely safe". Does this mean that myself and my family will or will not be adversely effected? Are we completely safe? Should we sell our home, should we stay and do nothing?

The Secretary of the Commission
Page Two
August 6, 1993

On page 52, #19, it is interesting that although PECO advocates prudent avoidance, their definitions of prudent avoidance varies according to the situation. By reading over this decision, Judge Smolen is indicating that since it is apparent that there is no factual proof either way with Exceptions of regard to EMF, then nothing should be done and the line should be energized. In light of the possible ramifications, I hope Judge Smolen sleeps well at night.

My main exception, although not part of the record when it should have been, has always been with regard to the fact that this line was represented from the outset as a back-up line. In fact, this line has been used as a back-up line at varying times during the past two summers, 1992 and 1993. Apparently, this line can be energized within minutes and on-line to assist with peak power demand. Although the need for this line was not allowed to be challenged, if in fact the need is established, I feel that it should be used as a back-up line for which it was originally proposed. Therefore, if the line is needed, it could be put into use and at all other times it would not be energized and thereby, alleviating most of the problem. This would be the best possible scenario for everyone involved wherein PECO would have their line to use in a back-up or emergency situation and the people living in close proximity to this line could live without fear of being constantly exposed to high levels of EMF 24 hours a day, 365 days a year.

Respectfully submitted,



Edward F. Koerper, Jr.
Jacinta M. Koerper
300 Casey Circle
Huntingdon Valley, PA 19006
(215) 322-9143

CERTIFICATE OF SERVICE

I, Edward F. Koerper, Jr., certify that I have mailed a copy of
(5) five (English, Koerper, Glathorn, Dempsey and Bontempo)
Exceptions to the Initial Decision of the Honorable
Herbert Smolen, Administrative Law Judge to the following counsel
by first class mail, postage pre-paid, on this date:

Paul R. Bonney, Esq.
Assistant General Counsel
Philadelphia Electric Company
2301 Market Street
Philadelphia, PA 19101

Jesse Dillon, Esq.
Penna Power & Light Co.
Two North Ninth Street
Allentown, PA 18101

Tanya J. McCloskey, Esq.
Assistant Consumer Advocate
Office of Consumer Advocate
1425 Strawberry Square
Harrisburg, PA 17120

Ward Smith, Esq.
Crowell & Moring
1001 Penna Ave., N.W.
Washington, D.C. 20004

Charles Hoffman, Esq.
PA PUC
Office of Trial Staff
P.O. Box 3265
Harrisburg, PA 17120

Robert J. Sugarman, Esq.*
Sugarman & Associates
Robert Morris Bldg.
17th Floor
100 N. 17th Street
Philadelphia, PA 19103

Patricia Krise Burket, Esq.
PA PUC
G-28, North Office Bldg.
P.O. Box 3265
Harrisburg, PA 17120

Hon. Herbert S. Smolen
Administrative Law Judge
PA PUC
1302 Phila. State Offices
Broad & Spring Garden St.
Philadelphia, PA 19103

*Via Telecopier



Edward F. Koerper, Jr.
300 Casey Circle
Huntingdon Valley, PA 19006
(215) 322-9143

Dated: *E-11-93*

ORIGINAL

August 6, 1993

Commonwealth Of Pennsylvania
The Public Utility Commission
The Secretary Of The Commission
Room B-18 North Office Building
North Street & Commonwealth Ave.
P.O. Box 3265
Harrisburg, Pa. 17105-3265

DOCKETED
AUG 24 1993

ETL

SUBJECT: Docket No: A-110550F055 PECO's 230K Line
REFERENCE: EXCEPTION OF DECISION BY JUDGE HERBERT SMOLEN
Transcript Dated July 23, 1993

EXCEPTION

RECEIVED

AUG 10 1993

Dear Secretary Of The Commission:

SECRETARY'S OFFICE
Public Utility Commission

In response to Judge Smolens decision regarding PECO's proposed 230K Woodbourne-Heaton Line, we submit this letter of exception.

As original protestants in this case, we are concerned with this latest decision and find exception to it. We feel the hearings were unfair as PAUSE did not have enough time to bring in a notable and highly respected expert on the EMF issue, Dr. Samuel Milham, a Washington, D.C. epidemiologist, who has agreed to testify.

It is sadly apparent to us that in light of all the research and statistics presented by us, the PUC has once again pushed its citizens aside and given PECO a warm handshake. In looking at the numerous cases of health problems in people who have been in close proximity to high power lines, throughout the world, not just in Pennsylvania, the PUC should put a hold on the powering of this line until further hearings provide us the opportunity to fully present our case. Placing time constraints on such a serious issue benefits the Philadelphia Electric Company only, not the public, who the PUC is supposed to protect.

We strongly recommend that the hearings be opened so that a more conscionable decision can be made on the part of the Pa. PUC and Judge Smolens.

DOCUMENT
FOLDER

Thank you.

Sincerely,

Kenneth F. Glathorn
Barbara J. Glathorn

Kenneth F. Glathorn
Barbara J. Glathorn
467 Militia Hill Road
Southampton, PA. 18966

RECEIVED

AUG 10 1993

SECRETARY'S OFFICE
Public Utility Commission

RECEIVED

AUG 11 1993

STATE OFFICE
PUBLIC UTILITIES COMMISSION

CERTIFICATE OF SERVICE

I, Edward F. Koerper, Jr., certify that I have mailed a copy of (5) five (English, Koerper, Glathorn, Dempsey and Bontempo) Exceptions to the Initial Decision of the Honorable Herbert Smolen, Administrative Law Judge to the following counsel by first class mail, postage pre-paid, on this date:

Paul R. Bonney, Esq.
Assistant General Counsel
Philadelphia Electric Company
2301 Market Street
Philadelphia, PA 19101

Jesse Dillon, Esq.
Penna Power & Light Co.
Two North Ninth Street
Allentown, PA 18101

Tanya J. McCloskey, Esq.
Assistant Consumer Advocate
Office of Consumer Advocate
1425 Strawberry Square
Harrisburg, PA 17120

Ward Smith, Esq.
Crowell & Moring
1001 Penna Ave., N.W.
Washington, D.C. 20004

Charles Hoffman, Esq.
PA PUC
Office of Trial Staff
P.O. Box 3265
Harrisburg, PA 17120

Robert J. Sugarman, Esq.*
Sugarman & Associates
Robert Morris Bldg.
17th Floor
100 N. 17th Street
Philadelphia, PA 19103

Patricia Krise Burket, Esq.
PA PUC
G-28, North Office Bldg.
P.O. Box 3265
Harrisburg, PA 17120

Hon. Herbert S. Smolen
Administrative Law Judge
PA PUC
1302 Phila. State Offices
Broad & Spring Garden St.
Philadelphia, PA 19103

*Via Telecopier



Edward F. Koerper, Jr.
300 Casey Circle
Huntingdon Valley, PA 19006
(215) 322-9143

Dated: 8-11-93

ORIGINAL

August 7, 1993

RECEIVED

AUG 10 1993

Commonwealth of Pennsylvania
The Public Utility Commission
The Secretary of the Commission
Room B-18 North Office Building
North Street and Commonwealth Avenue
P.O. Box 3265
Harrisburg, PA 17105-3265

RECEIVED
AUG 10 1993

BTU

DOCKETED
AUG 24 1993

Subject: Docket No.: A-110550F055
PECO's 230 KV line

Reference: Exception to the decision
by Judge Herbert Smolen
Transcript dated July 23, 1993

DOCUMENT
FOLDER

This letter is to serve as official notification that both John F. and Carol A. Dempsey take exception to Judge Herbert Smolen's ruling regarding evidence of EMF's and their possible harmful biological effects.

As concerned parents in this case, we are dismayed with this latest decision.

Exceptions of John F. and Carole A. Dempsey

Page 2

August 7, 1993

We feel the hearings were unfair because testimony subsidized by the power companies and their related industries was permitted to be presented, but testimony to be given by the witnesses of the Office of Trial Staff could not be presented because the PUC would not approve the needed extension of time. The hearings should be re-opened so all evidence available has a chance to be heard by Judge Smolen before the final recommendation of the Judge or the PUC is made.

Finally, we take exception to the apparent lack of independence of the PUC's Law Bureau due to the fact that the Law Bureau's counsel, Patricia Krise Burkot, sat with PECO's counsel throughout all the hearings over the last two and one half years.

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AUG 17 1993

SECRETARY'S OFFICE
Public Utility Commission

Exceptions of John F. and Carole A. Dempsey
Page 3
August 7, 1993

Why was PECO the apparent beneficiary
of the Law Bureau's Counsel instead
of the Counsel being impartial?

Sincerely

JF D 

Carole A. Dempsey
John F. Dempsey

705 Buck Road
Feasterville, PA 19053

cc: PVC (9)

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AUG 10 1993

SECRETARY'S OFFICE
Public Utility Commission

CERTIFICATE OF SERVICE

I, Edward F. Koerper, Jr., certify that I have mailed a copy of (5) five (English, Koerper, Glathorn, Dempsey and Bontempo) Exceptions to the Initial Decision of the Honorable Herbert Smolen, Administrative Law Judge to the following counsel by first class mail, postage pre-paid, on this date:

Paul R. Bonney, Esq.
Assistant General Counsel
Philadelphia Electric Company
2301 Market Street
Philadelphia, PA 19101

Jesse Dillon, Esq.
Penna Power & Light Co.
Two North Ninth Street
Allentown, PA 18101

Tanya J. McCloskey, Esq.
Assistant Consumer Advocate
Office of Consumer Advocate
1425 Strawberry Square
Harrisburg, PA 17120

Ward Smith, Esq.
Crowell & Moring
1001 Penna Ave., N.W.
Washington, D.C. 20004

Charles Hoffman, Esq.
PA PUC
Office of Trial Staff
P.O. Box 3265
Harrisburg, PA 17120

Robert J. Sugarman, Esq.*
Sugarman & Associates
Robert Morris Bldg.
17th Floor
100 N. 17th Street
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Patricia Krise Burket, Esq.
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P.O. Box 3265
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Hon. Herbert S. Smolen
Administrative Law Judge
PA PUC
1302 Phila. State Offices
Broad & Spring Garden St.
Philadelphia, PA 19103

*Via Telecopier



Edward F. Koerper, Jr.
300 Casey Circle
Huntingdon Valley, PA 19006
(215) 322-9143

RECEIVED

AUG 22 1993

Dated: *E-11-93*



COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA PUBLIC UTILITY COMMISSION
P. O. BOX 3265, HARRISBURG, Pa. 17120

August 12, 1993

IN REPLY PLEASE
REFER TO OUR FILE

John G. Alford, Secretary
Pa. Public Utility Commission
Post Office Box 3265
Harrisburg, PA 17105-3265

BTL

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AUG 12 1993
M.C. SHINDLER

In re: Letter Notification of Philadelphia Electric
Company Relative to Reconductoring and
Rebuilding of the Existing 138 kV Line to
Operate as the Woodbourne-Heaton 230 kV Line
Docket No. A-110550F055

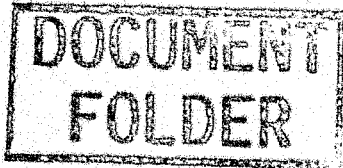
Dear Secretary Alford:

Enclosed, please find an original and nine (9) copies of the Exceptions of the Office of Trial Staff for filing in the above-docketed proceeding. Copies of these Exceptions are being served on all active parties of record.

Very truly yours,

Kandace F. Melillo

Kandace F. Melillo
Prosecutor
Office of Trial Staff



Enclosure

KFM:gdp

cc: Honorable Herbert S. Smolen, ALJ
Parties of Record

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Letter of Notification of :
Philadelphia Electric Company :
Relative to Reconstructing :
and Rebuilding of the Existing :
138 kV Line to Operate as the :
Woodbourne-Heaton 230 kV Line :
in Montgomery and Bucks County :

Docket No.
A-110550F055

DOCUMENT
FOLDER

DOCKETED
AUG 24 1993

EXCEPTIONS OF THE
OFFICE OF TRIAL STAFF

AND NOW, this 12th day of August, 1993, the Office of
Trial Staff (OTS) of the Pennsylvania Public Utility Commission
(Commission) files the following Exceptions to the Initial
Decision of Administrative Law Judge (ALJ) Smolen:

I. BACKGROUND AND SUMMARY OF EXCEPTIONS

On August 19, 1992, Administrative Law Judge (ALJ)
Smolen issued an Initial Decision in this proceeding concerning a
Notice to the Commission by Philadelphia Electric Company (PECO)
relating to the reconstruction and reconductoring of an existing
138 kV line to operate as a 230 kV line (Woodbourne-Heaton 230 kV
line). The August 19 Initial Decision, which was in response to
a Remand Order of the Commonwealth Court, considered evidence as
to electromagnetic field ("EMF") health effects and land use
impacts in determining whether or not the Woodbourne-Heaton line
should be energized. Exceptions and Reply Exceptions were filed
by the OTS and various parties to the proceeding. The OTS's

Exceptions objected to those areas of the August 19 Initial Decision which could be interpreted as constituting a generic ruling on EMF health effects.

By Opinion and Order entered March 26, 1993, the Commission remanded this proceeding to the Office of Administrative Law Judge for the purpose of (1) receiving evidence and comment regarding all studies of the health effects of magnetic fields which are available on or before the hearings on that evidence commence; and (2) determining, in light of findings regarding health effects, what, if any, standards should exist for right-of-way width for the Woodbourne-Heaton 230 kV line. The ALJ was directed, in this Remand Order, to issue a supplemental decision within 120 days of March 26th. OTS was granted leave to participate nunc pro tunc.

A prehearing conference was held in this remand proceeding on March 31, 1993. OTS expressed grave concerns at that time that the hearing schedule imposed by the Commission would not allow sufficient time for OTS to secure the necessary governmental approvals to hire an epidemiologist on EMF health effects. OTS made every effort to secure the necessary approvals during this limited time frame, but was ultimately unsuccessful. After the Commission Comptroller would not permit an addendum to the contract which would have permitted OTS's witness to begin work prior to formal contract approval, it became clear that additional time was absolutely necessary. Therefore, OTS sought

to obtain an extension of the 120 days. OTS's request was denied by the Commission, by Order entered June 10, 1993.

Since OTS was denied the opportunity to present its position through a witness in this proceeding, OTS had originally decided to withdraw from the case. However, upon receiving and reviewing copies of the Main Briefs filed by various parties to this proceeding, OTS decided that its continued participation was necessary in furtherance of its statutory duty to protect the public interest. Accordingly, OTS filed a Reply Brief on June 22, 1993, which urged the ALJ and the Commission not to reach definitive conclusions concerning EMF health effects on the basis of the Woodbourne-Heaton record (this record contains the testimony of only one epidemiologist -- the utility's hired epidemiologist).

On July 23, 1993, ALJ Smolen issued a second Initial Decision (I.D.), which considered the additional evidence of record in the remanded proceeding. In this Initial Decision, ALJ Smolen took considerable care to limit his findings and conclusions to the evidence of record in this case. For example, the ALJ prefaced his EMF health affects findings and conclusions with the phrase "based on the evidence presented of record. . . ."

OTS commends the ALJ for considering the due process rights of litigants in other pending and future transmission line siting proceedings which could be adversely impacted by definitive EMF health effect conclusions in the Woodbourne-Heaton

proceeding. See, I.D. p. 47. Given the language of the Initial Decision of August 23 which generally limits the holding of Woodbourne-Heaton to that case only, OTS has only one minor exception on that issue. However, if the Commission decides to reverse the Initial Decision of the ALJ and reach definitive conclusions on EMF health affects, OTS urges the Commission to give OTS the opportunity to present its epidemiologist witness, Dr. Milham, so that the Commission would have a full range of scientific opinion on which to base its EMF conclusions.

In addition, OTS supports regulatory amendments providing for advance notice and an opportunity to be heard to neighboring landowners when letter of notification procedures are invoked or when applications for authorization to locate and construct high voltage transmission lines are filed. See, OCA Main Brief, pp. 56-57; OCA Main Brief on Remand, p. 17. OTS also agrees with the stated OCA position that the Commission's transmission line siting regulations are not adequate to deal with emerging concerns regarding EMF. OCA M.B., pp. 56-57. Accordingly, OTS supports the initiation of a proposed rulemaking proceeding to consider such amendments. While the ALJ considered the issues for this remand to be limited to new evidence on health effects and standards, he mentioned the advance notice proposal so that the Commission could take such action as it deems appropriate. I.D., pp. 79, 83. In his original Initial Decision, the ALJ did recommend "that the Commission consider

modification of its regulations along the lines suggested by the OCA." I.D. August 19, 1992, pp. 193-194.

Finally, OTS incorporates by reference its Exceptions to the Initial Decision of August 19, 1992, which were filed of record on September 8, 1992. It is OTS' understanding that this earlier Initial Decision will continue to be considered, along with the more recent Initial Decision, when considering the sufficiency of the record evidence on EMF health effects. A copy of OTS's original Exceptions are attached hereto as Attachment "A" for the convenience of the Commission.

II. THE ORDERING PARAGRAPHS IN THIS PROCEEDING CONCERNING EMF HEALTH EFFECTS, IN ADDITION TO THE FINDINGS AND CONCLUSIONS, MUST BE STRICTLY LIMITED TO THE EVIDENCE ADDUCED IN THIS RECORD.

OTS excepts to Ordering Paragraph No. 1 in the Initial Decision, as this paragraph does not include the phrase "based on the evidence presented of record in this proceeding." See I.D. p. 90. Since the remainder of the Initial Decision was so carefully crafted to include this language whenever findings and conclusions concerning EMF health effects were being made, OTS believes that this phrase's omission is simply inadvertent. Accordingly, Ordering Paragraph No. 1 should be amended to read as follows:

1. That based on the evidence presented of record in this proceeding, the additional scientific research and studies presented of record in the remanded proceeding do not support a finding or conclusion . . . etc.

As stated in the OTS Reply Brief on Remand, there are numerous reasons why this proceeding is not the appropriate vehicle for a generic determination on EMF health effects. First and foremost are due process considerations in that thousands of Pennsylvanians who are either actively involved now in opposing transmission line siting applications or would be involved if provided the opportunity have not been given notice that the Commission intends to reach definitive conclusions about EMF scientific evidence in the instant proceeding. All of these individuals could potentially be affected and bound by these conclusions in ongoing and future litigation and yet would not have been provided the opportunity to present their evidence. In the DQE/GPU transmission line proceeding at Docket No. A-110300F051, more than 9,400 informal and Formal Complaints and protests have been filed by persons and entities opposing construction of the line. Some of these complainants sought intervenor status in the earlier filed companion proceeding at consolidated docket numbers G-900240, P-900485, and P-910502. In denying the intervention requests, the Commission assured these individuals that they would have a full, fair and complete opportunity to litigate, inter alia, issues of health and safety concerning the proposed 500 kV line. See, Commission Opinion and Order at G-900240, et al., entered March 16, 1992, p. 20; see also, Commission Opinion and Order at G-900240, et al., entered April 12, 1992, pp. 53-55.

Despite these prior assurances, OTS is concerned, based upon language at page 6 of the Commission's June 10, 1993, Order denying reconsideration in this proceeding, that the Commission may believe the instant Woodbourne-Heaton proceeding may be the case in which to definitively rule on the EMF health effects issue. See, Commission Opinion and Order entered June 10, 1993, Docket No. A-110550F055, p. 6. For the reasons stated herein, OTS urges the Commission to decline to make any general conclusions about the state of the existing scientific evidence as it relates to EMF health effects. Such general conclusions are not needed to decide this case. Instead, all findings, conclusions, and ordering paragraphs should be strictly limited to the evidence of record.

Another reason supporting forbearance from definitive EMF conclusions in this proceeding is that the EMF health issues are being extensively litigated in the DQE/GPU transmission line proceeding. That case is more in the nature of a generic proceeding on EMF than is the instant case due to the vast number of parties in the DQE/GPU case and its broader state impact.^{1/} Nevertheless, OTS does not advocate the DQE/GPU proceeding as the case for making definitive EMF health conclusions. Instead, in view of due process considerations, the Commission should either

^{1/} The DQE/GPU transmission line is a 500 kV line, 268 miles long, traverses 14 Pennsylvania counties, and requires acquisition of new right-of-way for half of its length. In contrast, the Woodbourne-Heaton line is a 230 kV line, 13 miles long, traverses two Pennsylvania counties, and is to be reconductored within a wider, existing utility corridor.

institute a generic rulemaking proceeding on this issue or decide EMF health effect issues on a case-by-case basis.

Considerable resources are being expended in the DQE/GPU proceeding to provide a full spectrum of expert opinions on the EMF health question. In addition, the position statements of the utilities' EMF health witnesses have already been extensively challenged in that proceeding through cross-examination which continued for all or parts of nine (9) days. The Swedish studies alone were the subject of cross-examination for several hours. All this effort could be for naught if the Commission decides to make generic determinations on EMF health effects in the Woodbourne-Heaton proceeding.

Furthermore, the instant proceeding, particularly the remand proceeding (which was specifically for the purpose of considering the new Swedish studies and other recent studies), does not provide the full spectrum of expert scientific opinion on EMF health effects. As indicated in PECO's Initial Brief On Remand, only two witnesses in this proceeding discussed the Swedish residential study and only one of those witnesses (i.e., PECO's witness) was an epidemiologist. PECO Initial Br. on Remand, p. 20. Thus, the Commission will only have the testimony of one epidemiologist (the utility's witness) to consider if they choose to make definitive conclusions about the Swedish studies in this proceeding. OTS intended to present the testimony of

Dr. Samuel Milham, a pioneer in the field of EMF epidemiology,^{2/} but was denied that opportunity due to time constraints imposed in the remand proceeding. The Commission should unquestionably have the benefit of a non-utility witness epidemiologist, since one is available to be presented, when considering a subject as sensitive and as important to the public interest as adverse EMF health effects.

Dr. Milham's testimony will be presented by OTS in the DQE/GPU proceeding. While OTS did not have the requisite approval to retain Dr. Milham in time to file testimony by the May 12th deadline in Woodbourne-Heaton, OTS has since, ironically, received the requisite approval to retain Dr. Milham as an expert in this proceeding (as of May 27, 1993) and could file his testimony if given the opportunity. It is believed that Dr. Milham would provide a different prospective and reach different conclusions on the Swedish studies than has previously been presented by other witnesses. The Commission must consider whether or not it is in the public interest to definitively decide EMF health questions without having a complete record to provide the full spectrum of scientific expert opinion on the subject. In OTS's opinion, the public interest requires a full range of all expert opinions of record for consideration.

^{2/} Dr. Milham was one of the first epidemiologists to publish data indicating an EMF/cancer association. See, e.g., Milham S. (1982) Mortality From Leukemia In Workers Exposed To Electrical and Magnetic Fields, 307(4) New England Journal of Medicine, p. 249.

For all of the above reasons, the Commission should refrain from making definitive findings and conclusions in the Woodbourne-Heaton proceeding which could be interpreted as "prejudging" the EMF health effects issue and which could be used to attack the positions of witnesses and parties in other on-going and future transmission line siting proceedings. However, if the Commission should reverse the ALJ and decide that this proceeding is the definitive case for ruling upon EMF health effects, OTS urges the Commission to permit Dr. Milham's testimony to be received of record and that an additional hearing be scheduled for the purpose of cross-examination, rebuttal and surrebuttal on this testimony.

III. OTS SUPPORTS TRANSMISSION LINE SITING
AMENDMENTS WHICH WOULD ADDRESS EMF CONCERN
AND PROVIDE NOTICE AND OPPORTUNITY FOR HEARINGS
TO NEIGHBORING LANDOWNERS.

In the initial phase of this proceeding, the OCA advocated that the Commission consider amending its siting regulations to require adequate notice and an opportunity to be heard for neighboring landowners in transmission line applications and Letters of Notification. Further, the OCA recognized that the existing regulations are not adequate to address emerging concerns regarding EMF. OCA M.B., pp. 56-57. The ALJ agreed and recommended "that the Commission consider modification of its regulations along the lines suggested by the OCA." I.D., August 19, 1992, pp. 193-194.

In the remand proceeding, the OCA again reiterated its position that the Commission provide actual notice of siting proceedings to affected landowners. OCA M.B. on Remand, p. 17; OCA M.B., pp. 55-58. While the ALJ considered the issues for this remand to be limited to new evidence on health effects and standards, the ALJ again mentioned the advance notice proposal for the consideration of the Commission on remand. I.D., pp. 79, 83. Given the limited nature of the remand, OTS does not have a specific exception to the lack of a regulatory amendment recommendation in the Initial Decision. Instead, OTS views the ALJ's original decision as continuing in viability with respect to findings on EMF effects and the recommendation for regulatory changes.

OTS fully supports the initiation of a proposed rulemaking to consider amendments to the Commission's siting regulations. Current regulations are clearly outdated in this area of emerging EMF concerns. This proposed rulemaking (i.e. generic proceeding) would provide opportunity for all interested parties to have input on this sensitive issue and is the only proceeding which would result in generic EMF health effect conclusions consistent with due process.

IV. OTS's EXCEPTIONS TO THE AUGUST 19 INITIAL DECISION, FILED SEPTEMBER 8, 1992, ARE INCORPORATED HEREIN BY REFERENCE.

On September 8, 1992, OTS filed Exceptions to the Initial Decision of ALJ Smolen, issued August 19, 1992. These Exceptions concerned those findings and conclusions in the

August 19 Initial Decision which could be interpreted as constituting a generic ruling on EMF health effects. Since it is OTS's understanding that this earlier Initial Decision will continue to be considered, along with the more recent Initial Decision, when considering the sufficiency of record evidence on EMF health effects, OTS hereby incorporates its earlier Exceptions herein by reference.

V. REQUESTED RELIEF

WHEREFORE, for all the foregoing reasons, the Office of Trial Staff of the Pennsylvania Public Utility Commission respectfully requests that its Exceptions be granted, that the Initial Decision(s) be modified in accordance with these Exceptions, and that the Commission initiate a proposed rulemaking proceeding addressing, inter alia, EMF concerns and notice and opportunity to be heard for neighboring landowners.

Respectfully submitted,

Kandace F. Melillo
Kandace F. Melillo
Prosecutor

Robert F. Frazier
Senior Prosecutor

Charles F. Hoffman
Chief Prosecutor

Office of Trial Staff

Pennsylvania Public Utility Commission
P.O. Box 3265
Harrisburg, PA 17105-3265
(717) 787-1976

Dated: August 12, 1993

ATTACHMENT "A"

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Letter of Notification :
of Philadelphia Electric :
Company Relative to :
Reconstructing and Re- :
building of the Existing :
138kV Line to Operate :
as the Woodbourne - Heaton :
230 kV Line in Montgomery :
and Bucks County :

Docket No.
A-110550F055

EXCEPTIONS OF THE
OFFICE OF TRIAL STAFF

AND NOW, this 8th day of September, 1992, the Office of Trial Staff (OTS) of the Pennsylvania Public Utility Commission (Commission) files the following Exceptions, pursuant to 66 Pa. C.S. §332(h).

I. INTRODUCTION

On August 19, 1992, Administrative Law Judge (ALJ) Smolen issued an Initial Decision in the above-captioned matter concerning a notice to the Commission by Philadelphia Electric Company (PECO) relating to the reconstruction and reconductoring of an existing 138 kV line to operate as a 230 kV line (Woodbourne - Heaton 230 kV line). The Initial Decision, which was in response to a Remand Order of the Commonwealth Court, considered evidence as to electromagnetic

field ("EMF") health effects and land use impacts in determining whether or not the Woodbourne - Heaton line should be energized. OTS ordinarily does not file exceptions to ALJ Decisions in cases where OTS has not participated as a party. In this case OTS is compelled to file exceptions to those limited areas of the Initial Decision wherein it is perceived that an acceptance by the Commission of certain findings and statements could be interpreted as a "prejudging" by the Commission of certain issues in controversy in the pending 3PU/DLC proceeding.

In addition, OTS also must except to the ALJ's conclusion that the Commission does not possess the requisite authority to permit the consideration of alleged damages to private property in an assessment of the adverse impact to property owners. See R.D., p. 194. Such a conclusion apparently results from a footnote in a Commission Order entered in this matter on March 8, 1991. Further discussion concerning these Exceptions is found below.

II. THE FINDINGS AND CONCLUSIONS IN THIS PROCEEDING CONCERNING EMF HEALTH EFFECTS MUST BE STRICTLY LIMITED TO THE EVIDENCE ADDUCED IN THIS CASE.

OTS excepts to Findings of Fact #36, #37, #38, #39, #40, #41, #42, and #43 found on pages 125-127 of the Initial Decision and to Ordering Paragraph #2 on page 211 of the Initial Decision to the extent that these findings and conclusions do not specifically contain language by which the

statements and conclusions are limited to the evidence of record in the Woodbourne - Heaton case. At page 11 of the Initial Decision, ALJ Smolen stated clearly and concisely his responsibilities in this case:

Thus, the Administrative Law Judge must determine whether the record evidence presented by the parties is sufficient to support a finding that Petitioners will be adversely affected by the reconductoring of the line at issue. It is not, repeat, not to scientifically determine, one way or the other, for all time, whether EMFs cause or contribute to adverse human health effects. It is, however, as aforesaid, to determine within the framework of the record adduced in this particular case, whether or not there is sufficient record evidence to support a finding that Petitioners will be adversely affected by the reconductoring of the line at issue. [Emphasis in original]

A review of Findings of Fact #36-43 shows no such limitation of those findings to the facts adduced in the record. Rather, these findings of fact are stated broadly as though they would not be subject to challenge even if other evidence were presented. For example, Finding of Fact number 37 states:

37. Although biological effects are observed to be associated with EMF exposure, no connection between EMF exposure and human cancer has been conclusively demonstrated (N.T. 368; OCA Statement No. 1 [Janes] at 10.)

It may well be that the Petitioners have failed to carry the burden of proof imposed upon them by the ALJ in this proceeding by failing to prove that EMF causes cancer or other

adverse health effects. That does not mean that the ALJ may find as a fact that no connection between EMF and cancer has ever been conclusively demonstrated.

The granting of this exception will insure that the findings based solely on the evidence presented in this case are properly limited to this case, and no party can pre-empt the full airing of these issues in other cases by arguing that the Commission has already ruled on these issues. For example, parties to the GPU/DLC proceeding, including OTS, will present evidence in that proceeding concerning EMF health effects which would not necessarily be in accord with the findings and conclusions contained in the instant Initial Decision. A Commission decision which incorporates these Findings of Fact in general could certainly damage the impact of such testimony submitted in the pending GPU/DLC proceeding. This prejudicial effect must be avoided if at all possible.

III. THE COMMISSION HAS THE REQUISITE AUTHORITY TO CONSIDER THE POTENTIAL FOR PROPERTY DEVALUATION AND TO CONSIDER THESE ADVERSE IMPACTS WHEN ASSESSING WHETHER THE PUBLIC INTEREST WILL BE SERVED BY LOCATING AND CONSTRUCTING AN HV LINE.

OTS excepts to the ALJ's conclusion, at page 194 of the Initial Decision, that the Commission does not possess the requisite authority to consider alleged damages to private property in deciding whether to permit the construction, location, reconstruction, or rebuilding of an HV transmission line. OTS also excepts to the statement, on page 196, that it

is appropriate to consider, in the context of the within proceeding, the asserted land use impacts, excluding property value decreases. In addition, OTS excepts to the ALJ's interpretation of the Commission's March 8, 1991 Order to the extent that it precludes consideration of property value issues in transmission line proceedings.

OTS readily acknowledges that the Commission cannot award property damages to the Petitioners. However, simply because the Commission cannot award damages for the taking of a property interest, it does not follow that the Commission cannot consider these matters in its determination of whether a proposed HV line is in the public interest or whether it adversely impacts a property owner. ALJ Meehan clearly recognized this distinction in his Prehearing Order #3, dated July 15, 1992, in the GPU/DLC transmission line proceeding. In that Order, ALJ Meehan stated as follows:

As I stated during the several prehearing conferences, the Public Utility Commission has no power or authority to order the Applicants to pay damages. That is, if John Doe testifies that the construction of the proposed HV line will cause the value of his property to decrease by \$10,000, the Commission cannot order any or all of the Applicants [GPU/DLC] to pay any money to John Doe. Only the several courts of common pleas have the authority and power to order the payment of damages. However, as I also stated at those conferences, the occurrence of damages for the taking of property or the extent of property devaluation, etc., are relevant to the overall determination of whether the approval of

the application for the proposed HV line will be in the public interest.

Prehearing Order #3, Docket No. A-110300F051, July 15, 1992.

As pointed out to Judge Meehan in that proceeding, the Commission has also recognized this distinction in Re West Penn Power Company, 68 Pa. P.U.C. 262 (1988), when it stated:

[1] With regard to the quantum of harm which the Galiachatos' will suffer, the Court in Kearns v. Pennsylvania Public Utility Commission, 201 Pa. Super. Ct. 174, 49 PUR3d 198, 191 A.2d 700 (1963), said:

Whether appellants own two other tracts, whether these tracts constitute a single farm, and the effect thereon by the exercise of the power of eminent domain, are questions relating to damages, and must be determined in another forum. Cf. Morris v. Commonwealth, 367 Pa. 410, 80 A.2d 762.

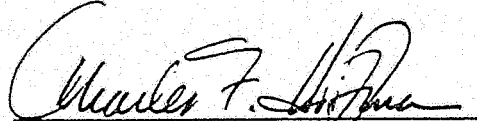
Id at 703. Thus, to the extent that the Exceptions are concerned with the damages which the Galiachatos'; will suffer, it must be recognized that the quantum of damages is not a matter which is within our jurisdiction. That is not to say, however, that the damage which will be suffered by property owners is not a consideration when we address the matter of a siting application. Although not specifically itemized, in conjunction with our consideration of land use and availability of alternative routes, we consider the impact upon land owners; both by reason of the damage and the inconvenience which they will suffer. These considerations were addressed and resolved by means of the Initial Decision of ALJ Banzhoff, which became final on February 26, 1987. (Emphasis supplied).

In conclusion, the Commission clearly possesses the requisite authority, as necessary and proper to carry out its duty to regulate in the public interest, to consider the impact of property value diminution in assessing HV transmission line impacts. Any assertions to the contrary are in error.

IV. REQUESTED RELIEF

WHEREFORE, for all the foregoing reasons, the Office of Trial Staff of the Pennsylvania Public Utility Commission respectfully requests that its Exceptions be granted and that the Initial Decision be modified in accordance with these Exceptions.

Respectfully submitted,



Charles F. Hoffman
Chief Prosecutor,
Office of Trial Staff

Pa. P.U.C.
P.O. Box 3265
Harrisburg, PA 17105-3265
(717) 787-4886

Dated: September 8, 1992

CERTIFICATE OF SERVICE

I hereby certify that I am serving the foregoing document(s), either personally, by Facsimile, and/or by Overnight/Express or First Class mail, upon the persons listed below:

Honorable Herbert S. Smolen
Administrative Law Judge
Pa. Public Utility Commission
1302 State Office Building
1400 West Spring Garden Street
Philadelphia, PA 19130

Paul R. Bonney, Esquire
Ward L. Smith, Esquire
Philadelphia Electric Company
2301 Market Street
Post Office Box 8699
Philadelphia, PA 19101

Tom Watson, Esquire
Crowell & Moring
1001 Pennsylvania Avenue, N.W.
Washington, D.C. 20004

Patricia Krise Burket, Esquire
Law Bureau - Pa. P.U.C.
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Tanya J. McCloskey, Esquire
Office of Consumer Advocate
1425 Strawberry Square
Harrisburg, PA 17120

Jesse Dillon, Esquire
Pennsylvania Power & Light Company
Two North Ninth Street
Allentown, PA 18101

Robert J. Sugarman, Esquire
Sugarman & Associates
7th Floor - Robert Morris Building
100 North 17th Street
Philadelphia, PA 19103

Kandace F. Melillo

Kandace F. Melillo
Prosecutor - Office of Trial Staff
Pennsylvania Public Utility Commission

Dated: August 12, 1993
Woodbourne/Heaton, A-110550F055

ORIGINAL

SUGARMAN & ASSOCIATES

ATTORNEYS AT LAW
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100 NORTH 17TH STREET
PHILADELPHIA, PENNSYLVANIA 19103
215-864-2500 • FAX: 215-864-2501

BTL

ROBERT J. SUGARMAN
ALAN M. KAPLAN

OF COUNSEL
ROBERT R. ELLIOTT*

GREGORY D. PALKON
LEGAL ASSISTANT

*NOT ADMITTED IN PENNSYLVANIA

RECEIVED

AUG 12 1993

SECRETARY'S OFFICE
Public Utility Commission

August 12, 1993

Mr. John Alford
Secretary
Pennsylvania PUC
P. O. Box 3265
Harrisburg, PA 17105

Re: Application of Philadelphia Electric Company
(Woodbourne Heaton Line), Docket No. A-110550F055

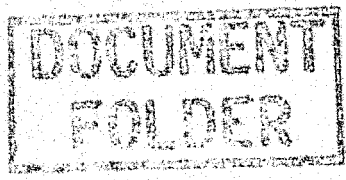
Dear Mr. Alford:

Please find enclosed an original and nine copies of the
Exceptions of Protestants Small et al and Middletown Township.
Protestants have also filed individual Exceptions.

Copies have been served on all parties as shown in the
attached Certificate of Service.

Sincerely,

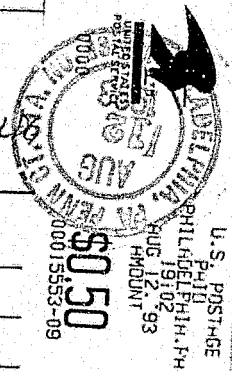
Robert J. Sugarman



RJS:er

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ROBERT J. SUGARMAN, ESQ	
100 N. 17th ST., ROBERT MORRIS BLDG	
7th Floor	
PHILADELPHIA, PA 19103	
One piece of ordinary mail addressed to:	
MR. JOHN ALFORD, SEC.	
PENNSYLVANIA PUC.	
P.O. Box 3265	
HARRISBURG, PA 17105	



DOCUMENT
FOLDER

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

IN RE: LETTER OF NOTIFICATION :
OF PHILADELPHIA ELECTRIC COMPANY :
UNDER 52 PA CODE §57.72(d) :
RE: PROPOSED 230 KV WOODBOURNE :
TO HEATON TRANSMISSION LINE :

DOCKET NO. A-110550F055

RECEIVED

AUG 12 1993

DOCKETED

AUG 24 1993

EXCEPTIONS OF SMALL ET AL

SECRETARY'S OFFICE
Public Utility Commission

Protestant property owners Small et al file exceptions to the recommended decision of the Honorable Administrative Law Judge, as follows:

1. The Honorable Administrative Law Judge erred in failing to require adequate multi-party participation, as a condition to being able to respond to the Commission's direction to update the scientific evidence. The honorable ALJ was limited to evidence, virtually all of which was provided by the same applicant witnesses whose testimony had previously been rejected as a basis for Commission decision, namely Drs. Gelman and Cole. Likewise, the applicants' in-house witnesses had previously supported ignoring electromagnetic fields, contrary to this Commission's determination.

Clearly, such pre-committed witnesses, adherence of a school of thought discredited by the Commission, could not be relied upon to contradict their own prior testimony, in response to this Commission's directive.

It is true that OCA also had a witness, but the witness, but the witness, from his prior and present testimony, neither

professed to nor did have any independent opinion, or basis of opinion, as to the central question, namely the role of electromagnetic fields in causing health effects. Mr. Janes had professed no expertise in electromagnetic fields.

The ALJ should have responded to the Commission that because of the lack of resources of the protestants and the lack of time of the Office of Trial Staff, he was unable to respond to the Commission's directive.

2. The ALJ erred in giving credibility to the applicants' witnesses, who had previously been rejected.

The ALJ himself recognized the inadequacy of the record through his repeated references to the fact that this record was good for this proceeding only. This qualification is a "poison pill" which demonstrates the failure of the Commission to evaluate the public interest.

3. The ALJ erred in failing to take into consideration, or to acknowledge, that the witnesses had admitted on cross examination that their conclusion that there was "no basis to conclude" that EMF causes health effects, was simply an avoidance of the decision, rather than a decision. In their previous testimony, both witnesses were unable to testify concerning the known effects of EMF on health, where EMF is used clinically to enhance bone healing, although these clinical practices are carried on at their own hospitals.

4. The ALJ erred in ignoring the witnesses' ignorance of the role of magnetites, which have been demonstrated to be present in

the human body, and to have a role in the mechanism by which electromagnetic fields affect the body, although the witnesses were confronted with recent studies showing those effects.

5. The ALJ erred in failing to reflect the petitioners-protestants recommendations that the houses of the protestants be purchased, which would have entailed considerably smaller expenditure than to buy the homes of all of the neighbors, many of whom have not protested, and many of which are not residential properties. The ALJ erred in failing to make any finding as to the appropriateness of such mitigation.

6. The ALJ erred in applying prudent avoidance tests, and in defining prudent avoidance based on some obsolete lack of evidence of the EMF health effects, whereas, given the increased level of probability, the concept of prudent avoidance now requires more expenditure, i.e., what is prudent changes with the information available.

7. The ALJ erred in failing to order that the protestants be funded to carry their case forward, in view of the hardships imposed upon them by the Commission's previous errors, and the deprivation inflicted upon them.

8. The ALJ erred in concluding that awarding costs or funding for presentation is unauthorized, as being damages or in the nature of damages; to the contrary, in its oversight function of utilities, the Commission has discretion to insure that the public interest is adequately reflected.

9. The Commission having determined that the participation

of OTS was necessary to serve the public interest, the ALJ erred in failing to continue the hearings pending an opportunity for OTS to participate.

10. The ALJ and the Commission replicated their previous error in not affording due process up front, and thus forcing protestants to go outside the Commission to obtain due process.


11. The Commission's actions, and those of the ALJ, taken as a whole, represent a taking of life, liberty and property from the protestants without compensation, and without due process of law, in violation of the Pennsylvania and United States Constitutions.

12. In the absence of definitive evidence as to the extent of adverse effect which protestants will incur as a result of electromagnetic fields, it is and was incumbent upon the Commission to balance the alleged need for the line, against the adverse effects, and the alternatives. The ALJ, while appropriately recognizing his subordinate position to the Commission, should have concluded that such a balancing was necessary in order to comply with the law and the mandate of the Commonwealth Court.

13. The Commission denied due process by permitting the Law Bureau of the Commission to act as an advocate of the utility, thereby affording additional resources to the utility, while denying them to the protestants; the participation of the Law Bureau as an adjunct to the utility was a denial of due process by the Commission, and a denial of equal protection.

Consequently, the Commission should set aside and vacate the decision of the ALJ, award reimbursement of counsel fees, expert

witness fees, and other costs to the protestants in the amount of \$100,000, order PECO to estimate the cost of purchase of the protestants' properties, remand the matter for hearings to consider the need for the line, and reopen the hearings on EMF.



ROBERT J. SUGARMAN
Counsel for Protestants

OF COUNSEL:

SUGARMAN & ASSOCIATES
7TH FLOOR, ROBERT MORRIS BUILDING
100 NORTH 17TH STREET
PHILADELPHIA, PA 19103
(215) 864-2500
pldngs93\pause729.mtn

CERTIFICATE OF SERVICE

I, Robert J. Sugarman, certify that I have mailed a copy of the foregoing Protestants Exceptions to the following counsel by first class mail postage pre-paid on this date:

Paul R. Bonney, Esq.
Assistant General Counsel
Philadelphia Electric Company
2301 Market Street
Philadelphia, PA 19101

Jesse Dillon, Esq.
Pennsylvania Power & Light Co.
Two North Ninth Street
Allentown, PA 18101

Tanya J. McCloskey, Esq.
Assistant Consumer Advocate
Office of Consumer Advocate
1425 Strawberry Square
Harrisburg, PA 17120

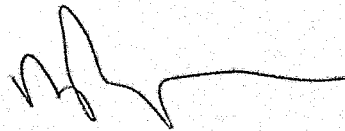
Tom Watson, Esq.
Crowell & Moring
1001 Pennsylvania Ave., N.W.
Washington, D.C. 20004

Patricia Krise Burket, Esq.
Penna. PUC
G-28, North Office Bldg.
P. O. Box 3265
Harrisburg, PA 17120

Candace Melillo, Esq.
Pennsylvania PUC
O.T.S.
P. O. Box 3265
North Office Building
Harrisburg, PA 17105-3265

Charles Hoffman, Esquire
Pennsylvania Public Utility
Commission
Office of Trial Staff
P. O. Box 3265
Harrisburg, PA 17120

Robert R. Fleck, Esq.
Solicitor
Lower Southampton Township
198 North Pine Street
Langhorne, PA 19047



ROBERT J. SUGARMAN

Date:

8/12/93



Township of Middletown

JOHN J. BURKE
Township Manager

BOARD OF SUPERVISORS

RAYMOND P. MONGILLO - Chairperson
KEVIN P. HASTINGS - Vice Chairperson
ROBERT J. BRANN - Secretary
KAREN A. SELVAGGI
RUSSELL M. KAVANA

2140 TRENTON ROAD • LEVITTOWN, PA 19056-1483 • 215-943-0300 • FAX # 215-943-9937

August 5, 1993

Robert J. Sugarman, Esquire
Sugarman & Associates
Seventh Floor
Robert Morris Building
100 N. 17th Street
Philadelphia, Pa. 19103

RE: PECO'S WOODBOURNE-HEATON 230K LINE

Dear Mr. Sugarman:

Enclosed are nine (9) original copies of an exception letter filed by the Middletown Township Board of Supervisors regarding the above-referenced matter. Please submit this exception letter to the PUC.

Please contact me if you require additional information. Thank you.

Sincerely,

Joseph W. Golden
Director of Community Services

JWG/rlw
Enclosure
cc: File



Township of Middletown

BOARD OF SUPERVISORS

RAYMOND P. MONGILLO - Chairperson
KEVIN P. HASTINGS - Vice Chairperson
ROBERT J. BRANN - Secretary
KAREN A. SELVAGGI
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Township Manager

2140 TRENTON ROAD • LEVITTOWN, PA 19056-1483 • 215-943-0300 • FAX # 215-943-9937

August 5, 1993

Secretary of Commission
Public Utility Commission
Commonwealth of Pennsylvania
Room B-18 North Office Building
North Street & Commonwealth Avenue
P. O. Box 3265
Harrisburg, Pa. 17105-3265

RE: DOCKET #A-110550F055
PECO'S 230K LINE

Dear Secretary:

Please be advised that the Middletown Township Board of Supervisors takes exception to Judge Smolen's initial decision of July 15, 1993, permitting the energizing of PECO's Woodbourne-Heaton line.

Judge Smolen's decision concluded that there was not enough evidence presented to support the existence of a connection between exposure to EMF's and adverse human health effects. However, there was not an opportunity given for all the evidence to be presented which, it is our understanding, if the evidence were presented, would provide conclusive testimony that there is a factual connection between exposure to EMF's and adverse human health effects.

We believe an issue as important and significant as this demands a full and fair hearing so that all of the evidence and expert witnesses may be presented. We strongly urge the Public Utility Commission to reconsider Judge Smolen's decision and deny the energizing of this line at this time.

Sincerely,

Raymond P. Mongillo, Chairman
Middletown Township
Board of Supervisors

RPM/rlw
cc: Board of Supervisors
File



Township of Middletown

JOHN J. BURKE
Township Manager

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Middletown Township
Board of Supervisors

RPM/rlw

cc: Board of Supervisors
File



Township of Middletown

JOHN J. BURKE
Township Manager

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Middletown Township
Board of Supervisors

RPM/rlw
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August 5, 1993

Secretary of Commission
Public Utility Commission
Commonwealth of Pennsylvania
Room B-18 North Office Building
North Street & Commonwealth Avenue
P. O. Box 3265
Harrisburg, Pa. 17105-3265

RE: DOCKET #A-11055GF055
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Raymond P. Mongillo, Chairman
Middletown Township
Board of Supervisors

RPM/rlw
cc: Board of Supervisors
File



Township of Middletown

JOHN J. BURKE
Township Manager

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August 5, 1993

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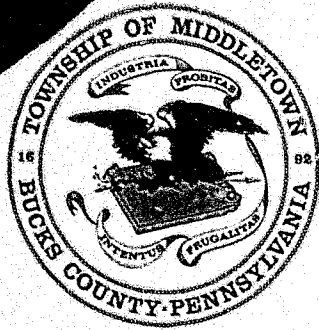
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Township of Middletown

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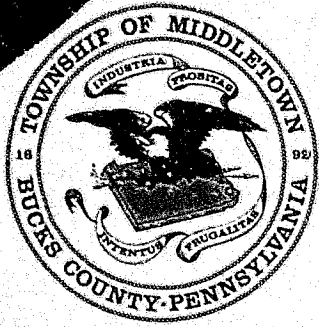
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RPM/rlw
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File



Township of Middletown

JOHN J. BURKE
Township Manager

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RPM/rlw

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File



Township of Middletown

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August 5, 1993

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Sincerely,

Raymond P. Mongillo, Chairman
Middletown Township
Board of Supervisors

RPM/rlw
cc: Board of Supervisors
File

COMMONWEALTH OF PENNSYLVANIA



OFFICE OF CONSUMER ADVOCATE
1425 Strawberry Square
Harrisburg, Pennsylvania 17120

ORIGINAL

BTL

IRWIN A. POPOWSKY
Consumer Advocate

(717) 783-5048

August 12, 1993

REC'D
AUG 12 1993
OFFICE OF CONSUMER ADVOCATE

John G. Alford, Secretary
PA Public Utility Commission
Room G-23, North Office Bldg.
Harrisburg, PA 17120

Re: Letter of Notification of
Philadelphia Electric Company
Relative to Reconductoring and
Rebuilding of the Existing 138-KV
Line to Operate as the Woodbourne-
Heaton 230KV Line
Docket No. A-110550 F055

Dear Secretary Alford:

Enclosed please find for filing an original and nine
copies of the Exceptions of the Office of Consumer Advocate on
Remand in the above-captioned proceeding.

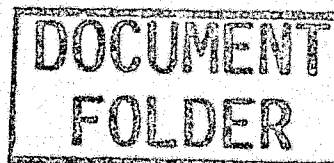
Copies have been served upon all parties of record as
shown on the attached Certificate of Service.

Sincerely,

Tanya J. McCloskey
Tanya J. McCloskey
Assistant Consumer Advocate

Enclosures

cc: Cheryl Walker-Davis
All parties of record



CERTIFICATE OF SERVICE

Re: Letter of Notification of Philadelphia Electric Company
Relative to Reconductoring and Rebuilding of the Existing
138-KV Line to Operate as the Woodbourne-Heaton 230KV Line
Docket No. A-110550F055

I hereby certify that I have this day served a true copy of the foregoing document, Exceptions of the Office of Consumer Advocate on Remand, upon parties of record in this proceeding in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant), in the manner and upon the persons listed below:

Dated this 12th day of August, 1993.

SERVICE IN PERSON

Charles F. Hoffman, Esq.
Kandace F. Melillo, Esq.
Office of Trial Staff
PA Public Utility Commission
P. O. Box 3265
Harrisburg, PA 17120

Patricia Krise Burket, Esq.
Law Bureau
PA Public Utility Commission
Room G-28, North Office Bldg.
Harrisburg, PA 17120

SERVICE BY FACSIMILE AND FEDERAL EXPRESS

Paul R. Bonney, Esq.
Ward L. Smith, Esq.
Philadelphia Electric Company
2301 Market Street, Box 8699
Philadelphia, PA 19101

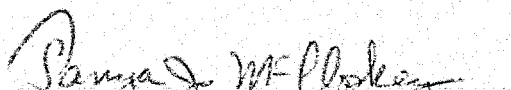
Robert J. Sugarman, Esq.
Sugarman & Associates
7th Floor
100 North 17th Street
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Pennsylvania Power & Light Co.
2 North Ninth Street
Allentown, PA 18101

Tom Watson, Esq.
Crowell & Moring
1001 Pennsylvania Ave., N.W.
Washington, D.C. 20004

SERVICE BY FEDERAL EXPRESS

Honorable Herbert Smolen
Administrative Law Judge
PA Public Utility Commission
1302 Philadelphia State Office Bldg.
1400 West Spring Garden Street
Philadelphia, PA 19130


Tanya J. McCloskey
Assistant Consumer Advocate

Counsel for
Office of Consumer Advocate
1425 Strawberry Square
Harrisburg, PA 17120
(717) 783-50481

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

LETTER OF NOTIFICATION OF :
PHILADELPHIA ELECTRIC COMPANY :
RELATIVE TO RECONDUCTORING : Docket No. A-110550 F055
AND REBUILDING OF THE EXISTING :
138-KV LINE TO OPERATE AS THE :
WOODBOURNE-HEATON 230KV LINE :

RECEIVED
AUG 19 11 31 AM
P. J. S.
INFO. CONTROL DIV.

OFFICE OF CONSUMER ADVOCATE
EXCEPTIONS ON REMAND

DOCKETED
AUG 24 1993

Tanya J. McCloskey
Assistant Consumer Advocate

Dianne E. Dusman
Assistant Consumer Advocate

For: Irwin A. Popowsky
Consumer Advocate

Office of Attorney General
Office of Consumer Advocate
1425 Strawberry Square
Harrisburg, PA 17120
(717) 783-5048

DATED: August 12, 1993

**DOCUMENT
FOLDER**

I. INTRODUCTION

The Office of Consumer Advocate ("OCA") hereby files these Exceptions to the Initial Decision of Administrative Law Judge Herbert Smolen issued July 23, 1993. At the outset, the OCA would like to commend ALJ Smolen for a thorough and reasoned discussion of the substantive issues presented for review on remand by the Commission. Specifically, the OCA agrees with ALJ Smolen that, based upon the record evidence, there is no basis at this time for establishing a health-based, numerical edge of right-of-way standard for the Woodbourne-Heaton transmission line. However, the OCA would again reiterate its concerns regarding the procedural deficiencies in the Commission regulations which initially permitted the use of the Letter of Notification procedure in this case.

As noted by the Commonwealth Court, the Letter of Notification procedure "did not contemplate the fact matrix before this court in which an existing right of way, previously used for rail service, is put to a new use." The Court further stated that the "notice to entities owning property within the proposed right-of-way provided in 52 Pa. Code § 57.72(d) is insufficient, where, as here, it is clear that Petitioners, as neighboring property owners, will be affected by the new use of the right of way." Commonwealth Court Order of May 24, 1991, Docket No. 761 C.D. 1991, at 1. As the Protestants have clearly established in this proceeding, and as the Commission has agreed in its Order of March 26, 1993, these neighboring property owners are adversely affected

by the construction of this transmission line. March 26, 1993 Order at 16-19. As such, the OCA submits that these Protestants should have been afforded appropriate notice and an opportunity to be heard on all issues relevant to a determination as to the siting, construction, operation and maintenance of this transmission line. At this juncture, no such opportunity has been afforded these Protestants.

Most notably, no evidentiary record has been established on the threshold issue of the need for the transmission line, as that issue was specifically excluded from consideration in this proceeding. See, OCA M.B. at 8-9. Given the unusual procedural sequence in this case, Protestants have been unable to have their evidence as to the impact of EMF considered in relation to such issues as the need for the line and possible alternative routes. These issues were already deemed to have been decided against the landowners by virtue of the Commission's February 9, 1990 Order-- and could not be balanced or weighed against the adverse effects upon them which they have demonstrated in this case.

The OCA submits that the Commission must consider the impacts upon the general public of permitting construction of a transmission line in a residential area when affected residents' concerns, which have been found to be valid, were not considered in the order approving construction of the line. The Commission must also consider the impact upon the general citizenry of the approach of permitting utilities to build new lines in the absence of

advance notice to affected parties and regulatory guidance on appropriate siting policy.

As such, the OCA urges the Commission to amend its Letter of Notification regulations, publish them in the Pennsylvania Bulletin and receive public comment on the regulations. Additionally, the OCA would support a Commission effort to establish guidelines and approaches to the concerns raised by the uncertainty regarding the potential health effects of EMFs. The OCA submits that this case has demonstrated the important public policy issues that transmission line siting applications present to the Commission, and the Commission should provide guidance to both electric utilities and the public.

II. EXCEPTION

A. The ALJ Erred In Recommending That the Commission's February 9, 1990 Order Be Affirmed.

The OCA does not except to the majority of Administrative Law Judge Smolen's Initial Decision on the remanded issues. In fact, the OCA agrees that based upon the record evidence, there is no basis for establishing a health based, numerical standard for the edge of the right-of-way for the Woodbourne-Heaton transmission line at this time. However, the OCA does except to a portion of the ALJ's recommended order wherein the ALJ affirms the Commission's February 9, 1990 Order approving the Letter of Notification filed by Philadelphia Electric Company for the Woodbourne-Heaton line. I.D. at 90. Such affirming of the Commission's February 9, 1990 Order incorrectly assumes that the Protestants in this proceeding have had an opportunity for a full hearing on all relevant issues.

As the OCA has argued throughout this proceeding, the Commission's February 9, 1990 Order remains challengeable since it was entered without prior notice to adjacent landowners. The Commission's Order was based only upon the assertions of the Company contained within a single fifteen-page filing and, as the Commonwealth Court recognized, it was entered without prior notice to adjacent landowners who were affected by the utility's planned action. Commonwealth Court Order of May 24, 1991, Docket No. 761 C.D. 1991, at 1. As such, the Commission's February 9, 1990 Order may have violated the Protestant's due process rights. Moreover, the February 9, 1990 Order could not have properly balanced issues

such as the need for the line, possible alternative routes, potential health effects of EMFs, the land use concerns of the property owners as a result of their concerns about EMF, mitigative measures, and other relevant factors. The multi-factor analysis contemplated by the siting regulations could not be meaningfully performed with respect to this high voltage transmission line.

OCA witness Janes recognized the problem presented by this approach in this proceeding even if the Commission was only trying to set a numerical edge of right-of-way standard. As OCA witness Janes pointed out on cross-examination, only the risk side of the risk-benefit analysis has been considered throughout this proceeding and he would not make a judgement on even an interim standard without having some understanding of what the benefit of the line was. Tr. 1617-1618. It is apparent that Protestants should have been given the opportunity for a full evidentiary hearing on all issues which should have been initially considered, including the need for the Woodbourne-Heaton line, and alternative routes.

The OCA submits that this important balancing of varying interests must be applied before the approval of a transmission line takes place. The OCA, and its witnesses, have urged the Commission to consider the adoption of a prudent policy for addressing the uncertainty regarding the potential health effects of EMFs. A critical element of such a policy is public participation before decisions are made. OCA St. 2 at 8, OCA St. 1B at 15-16. Moreover, as the OCA has noted throughout this

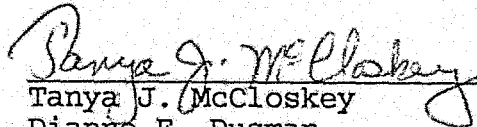
proceeding, prudent avoidance principles require evaluation in advance of the need for additional transmission in order for the application of those principles to be meaningful. OCA M.B. at 44; OCA St. 2 at 7-8. The Commission's Order approving the Letter Notification and finding the line to be needed did not and could not address whether these actions are consistent with those principles.

In summary, the parties to this proceeding have responded to the Commission's Remand Order and attempted to address the issues set forth therein. However, the OCA submits that the evidence of record developed in accord with the limitations set by the Commission does not support the affirming of the Commission's February 9, 1990 Order as recommended by the ALJ. In addition, the Commission's existing regulations as applied in this case did not provide advance notice to affected landowners, much less an opportunity for advance public participation. The procedural deficiencies inherent in the February 9, 1990 Order remain and such Order should not be affirmed at this time.

III. CONCLUSION

For the reasons set forth above, the Office of Consumer Advocate requests that the Commission grant its Exception as set forth herein.

Respectfully submitted,



Tanya J. McCloskey
Dianne E. Dusman
Assistant Consumer Advocates

Counsel for:
Irwin A. Popowsky
Consumer Advocate

Office of Consumer Advocate
1425 Strawberry Square
Harrisburg, PA 17120
(717) 783-5048

Dated: August 12, 1993

ORIGINAL

SUGARMAN & ASSOCIATES

ATTORNEYS AT LAW

7TH FLOOR, ROBERT MORRIS BUILDING

100 NORTH 17TH STREET

PHILADELPHIA, PENNSYLVANIA 19103

215-864-2500 • FAX: 215-864-2501

ROBERT J. SUGARMAN

ALAN M. KAPLAN

OF COUNSEL

ROBERT R. ELLIOTT*

GREGORY D. PALKON

LEGAL ASSISTANT

*NOT ADMITTED IN PENNSYLVANIA

August 13, 1993

Mr. John Alford
Secretary
Pennsylvania PUC
P.O. Box 3265
Harrisburg, PA 17105

Re: Application of Philadelphia Electric Company
(Woodbourne Heaton Line), Docket No. A-110550F055

Dear Mr. Alford:

Please find enclosed nine copies of page four of our
Exceptions in the above referenced matter. This page was
inadvertently omitted in the xerox machine. It should be in the
original copy in your file. I apologize for the inconvenience.

Sincerely,



Robert J. Sugarman

cc: All counsel

mrgn\alford8.13

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AUG 13 1993

SECRETARY'S OFFICE
Public Utility Commission

LOA

of OTS was necessary to serve the public interest, the ALJ erred in failing to continue the hearings pending an opportunity for OTS to participate.

10. The ALJ and the Commission replicated their previous error in not affording due process up front, and thus forcing protestants to go outside the Commission to obtain due process.

11. The Commission's actions, and those of the ALJ, taken as a whole, represent a taking of life, liberty and property from the protestants without compensation, and without due process of law, in violation of the Pennsylvania and United States Constitutions.

12. In the absence of definitive evidence as to the extent of adverse effect which protestants will incur as a result of electromagnetic fields, it is and was incumbent upon the Commission to balance the alleged need for the line, against the adverse effects, and the alternatives. The ALJ, while appropriately recognizing his subordinate position to the Commission, should have concluded that such a balancing was necessary in order to comply with the law and the mandate of the Commonwealth Court.

13. The Commission denied due process by permitting the Law Bureau of the Commission to act as an advocate of the utility, thereby affording additional resources to the utility, while denying them to the protestants; the participation of the Law Bureau as an adjunct to the utility was a denial of due process by the Commission, and a denial of equal protection.

Consequently, the Commission should set aside and vacate the decision of the ALJ, award reimbursement of counsel fees, expert

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PENNSYLVANIA COMMISSION



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

ORIGINAL

August 13, 1993

IN REPLY PLEASE
REFER TO OUR FILE

John G. Alford
Secretary
Pennsylvania Public Utility
Commission
P.O. Box 3265
Harrisburg, PA 17105-3265

Re: Letter of Notification of Philadelphia
Electric Company Relative to Reconstructing
and Rebuilding of the Existing 138 kV
Line to Operate as a Woodbourne-Heaton
230 kV Line in Montgomery and Bucks Counties,
Docket No. A-110550F.055

RECEIVED
AUG 19 1993
MONTGOMERY COUNTY

Dear Secretary Alford:

Please be advised that the Law Bureau Prosecutory Staff
will not be filing Exceptions to the ALJ's Initial Recommended
Decision in the above-captioned matter issued July 23, 1993.

Respectfully,

Patricia Krise Burket
Patricia Krise Burket
Assistant Counsel

DOCUMENT
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cc: Honorable Herbert Smolen
All Parties of Record

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AUG 25 1993

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25

PHILADELPHIA ELECTRIC COMPANY
LEGAL DEPARTMENT

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James W. Durham
Senior Vice President
and General Counsel

2301 Market Street, Box 8699
Philadelphia, PA 19101
(215) 841-5544 FAX: 568-3389

AUG 16 1993

SECRETARY'S OFFICE
Public Utility Commission

Bjarnie R. Anderson
Legal Administrator

Direct Dial: 841-4252

Paul R. Bonney
Ellen M. Cavanaugh
Rudolph A. Chillemi
Edward J. Cullen, Jr.
Todd D. Cutler
Katherine K. Dodd
Aubra S. Gaston
Dawn R. Getty
Gregory Golazeski
John C. Halderman
Elizabeth P. Harris
Mary McFall Hopper
Assistant General Counsel

Stephen L. Huntoon
Thomas G. Jackson
J. Lindsay Johnston
Conrad O. Kattner
Kimberly Lewis
Stephanie Whitton Lewis
Jeffrey J. Norton
Christine A. Reuther
Wendy Schermer
Jenny P. Shulbank
Ward L. Smith
Noel H. Trask
Assistant General Counsel

August 12, 1993

John G. Alford
Secretary
Pennsylvania Public Utility
Commission
P.O. Box 3265
Harrisburg, PA 17105-3265

Re: Letter of Notification of Philadelphia Electric Company
Relative to Reconstructing and Rebuilding of the
Existing 138 kV Line to Operate as a Woodbourne-Heaton
230 kV Line in Montgomery and Bucks Counties -
Docket No. A-110550, F.055

Dear Secretary Alford:

This letter is to inform the Commission, Administrative Law
Judge Smolen and the parties that Philadelphia Electric Company
will not be filing Exceptions to the ALJ's Initial Recommended
Decision issued July 23, 1993.

DOCKETED

AUG 26 1993

Sincerely yours,

Paul R. Bonney
Paul R. Bonney

PRB/meb

cc: Honorable Herbert Smolen
Cheryl A. Walker-Davis
Parties of Record

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NVL

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AUG 12 1993

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a true copy of the foregoing document(s) upon the following parties and in the manner indicated below in accordance with the requirements of 52 Pa. Code § 1.54:

BY FIRST CLASS MAIL

Honorable Herbert Smolen
Administrative Law Judge
Pennsylvania Public Utility Commission
1302 Philadelphia State Office Building
Broad & Spring Garden Streets
Philadelphia, PA 19130

BY TELECOPY & FIRST-CLASS MAIL

Robert J. Sugarman, Esquire
Sugarman & Associates
Robert Morris Building
17th Floor
100 N. 17th Street
Philadelphia, PA 19103
(Counsel for Intervenors)

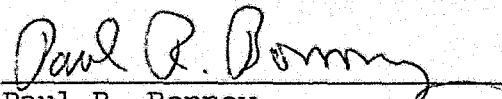
Tanya J. McCloskey, Esquire
Assistant Consumer Advocate
Office of Consumer Advocate
1425 Strawberry Square
Harrisburg, PA 17120

Jesse Dillon, Esquire
Pennsylvania Power & Light Co.
Two North Ninth Street
Allentown, PA 18101

Tom Watson, Esquire
Crowell & Moring
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Washington, D.C. 20004-2505

Patricia Krise Burket, Esquire
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Charles F. Hoffman, Esquire
Office of Trial Staff
Pennsylvania Public Utility
Commission
P.O. Box 3265
Harrisburg, PA 17120



Paul R. Bonney
Assistant General Counsel
Philadelphia Electric Company
2301 Market Street
Philadelphia, PA 19101
(215) 841-4252

Dated: August 12, 1993

8/12
8/23

COMMONWEALTH OF PENNSYLVANIA
Public Utility Commission
August 16, 1993

BTL

SUBJECT: A-110550F0055; Letter of Notification of Philadelphia Electric Company relative to reconductoring and rebuilding of the existing 128 kv line to operate as the Woodbourne-Heaton 230 kv line

TO: John G. Alford
Secretary

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FROM: Cheryl Walker Davis, Director
Office of Special Assistants

AUG 16 1993

CWA

Pursuant to the requirements of Act 294, (66 Pa. C.S. §332(h)), Chairman Rolka, Vice Chairman Rhodes, Commissioner Quain, Commissioner Crutchfield, Commissioner Hanger have requested full review of the Administrative Law Judge's Initial Decision in the above captioned proceeding. The second request for review was dated August 6, 1993.

Please notify the Office of Administrative Law Judge to prepare the case for consideration at a future Public Meeting.

DUCKETED

SEP 08 1993

*req. for news
except as filed*

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

August 16, 1993

IN REPLY PLEASE
REFER TO OUR FILE

A-110550F0055

■
CATHERINE ANNE PORTER, ATTY.
SCHNEIDER & PORTER
198 NORTH PINE ST.
LANGHORNE PA 19047
■

RECEIVED
AUG 25 1993

Letter notification of Philadelphia Electric Company relative to recon-
ductoring and rebuilding of the existing 128 kV line to operate as the
Woodbourne-Heaton 230 kV line.

Dear Ms. Porter:

Your Exceptions in the above referenced proceeding were received by
the Commission on August 16, 1993. This was not within 20 days of the
mailing to you of the Initial Decision of the Administrative Law Judge,
as prescribed in the cover letter transmitting that Initial Decision, and
the Commission's Rule at 52 Pa. Code §5.533. Additionally, your
Exceptions were not accompanied by Postal Service Form 3817, Certificate
of Mailing, as permitted by Commission Rule at 52 Pa. Code §1.11, if
Exceptions are mailed within 20 days, rather than being filed.

Accordingly, your Exceptions were not timely filed and will not be
considered by the Commission.

Very truly yours,

John G. Alford,
Secretary.

JEP:fao

cc: All Parties of Record
Office of ALJ
Office of Special Assistants
Chairman
Commissioners

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ORIGINAL



Pennsylvania Power & Light Company

Two North Ninth Street • Allentown, PA 18101-1179 • 215/774-5151

Jesse A. Dillon
Attorney
215/774-5013

FAX: 215/774-6726

August 20, 1993

VIA FEDERAL EXPRESS

Mr. John G. Alford, Secretary
Pennsylvania Public Utility Commission
P. O. Box 3265
Harrisburg, Pennsylvania 17105-3265

DOCUMENT
FOLDER

Re: Letter of Notification of Philadelphia Electric
Company Relative to Reconductoring and Rebuilding
the Existing Line to Operate as a Woodbourne-
Heaton 230 kV Line in Bucks and Montgomery
Counties
Docket No. A-110550F055

Dear Secretary Alford:

Enclosed for filing is an original and nine (9)
copies of Replies of Pennsylvania Power & Light Company to
Other Parties' Exceptions to the Initial Decision on Remand
of Administrative Law Judge Herbert Smolen Issued July 23,
1993.

As evidenced by the Federal Express receipt, this
document was deposited with an overnight express package
delivery service on August 20, 1993, and should be deemed
filed on August 20, 1993.

If you have any questions or comments, please call.

Very truly yours,

Jesse A. Dillon

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AUG 20 1993

SECRETARY'S OFFICE
Public Utility Commission

Enclosures

ORIGINAL

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

LETTER OF NOTIFICATION OF
PHILADELPHIA ELECTRIC COMPANY RELATIVE
TO RECONDUCTORING AND REBUILDING THE
EXISTING LINE TO OPERATE AS A WOODBOURNE-HEATON
230 KV LINE IN BUCKS AND MONTGOMERY COUNTIES

Docket No. A-110550F055

DOCKETED
AUG 25 1993

REPLIES OF
PENNSYLVANIA POWER & LIGHT COMPANY
TO OTHER PARTIES' EXCEPTIONS
TO THE INITIAL DECISION ON REMAND OF
ADMINISTRATIVE LAW JUDGE HERBERT SMOLEN
ISSUED JULY 23, 1993

DOCUMENT
FOLDER

Jesse A. Dillon
Pennsylvania Power & Light Company
Two North Ninth Street
Allentown, Pennsylvania 18101
(215) 774-5013

Attorney for Pennsylvania Power &
Light Company

Dated: August 20, 1993

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AUG 20 1993

SECRETARY'S OFFICE
Public Utility Commission

I. INTRODUCTION

Three parties to the proceeding, namely the Office of Trial Staff ("OTS"), the Office of Consumer Advocate ("OCA"), and Small, et al. ("Protestants"), filed exceptions to Initial Decision on Remand ("I.D."), issued on July 23, 1993, by Administrative Law Judge Herbert Smolen ("the ALJ").^{1/}

Below, PP&L will briefly respond to the exceptions filed in this proceeding to the extent that further response is necessary and appropriate. PP&L is not replying to all of the arguments or exceptions of the parties to this proceeding, and the absence of a reply to any argument or exception herein should not be interpreted as either agreement or disagreement with any of the positions of the parties to this proceeding.

^{1/} In addition, several other persons and entities filed documents captioned as "Exceptions." See, e.g., "Exceptions of Township of Middletown," "Exceptions of William J. Harley and Barbara J. Harley," "Exceptions of the Township of Lower Southampton," "Exceptions of Edward F. Koerper, Jr. and Jacinta M. Koerper," "Exceptions of Kenneth F. and Barbara J. Glathorn," "Exceptions of Frank and Dorothy A. English," "Exceptions of John F. and Carole A. Dempsey," "Exceptions of Dante and Marie Bontempo."

II. ARGUMENT

A. Allegations About What OTS' Witness Milham Would Have Said Are Groundless And Should Be Rejected

A major focus of the exceptions of OTS, the Protestants and the other persons and entities not previously parties to this proceeding relates to an argument, previously rejected by this Commission in its order on reconsideration dated June 10, 1993, that this case should not properly be decided or that certain findings should not be made without first hearing the testimony of an OTS witness, Dr. Samuel Milham, Jr., an epidemiologist who recently retired from the Washington State Health Department.

Although OTS does not mention in its Exceptions just what Dr. Milham would have testified about, other exceptions allege that Dr. Milham would testify that magnetic fields greater than 1 milligauss ("mG") "are harmful" and "dangerous" and that his testimony "would provide conclusive testimony that there is a factual connection between exposure to EMFs and adverse human health effects." See "Exceptions of Frank and Dorothy A. English," p. 2; "Exceptions of William J. and Barbara J. Harley," p. 2; "Exception of Middletown Township", p. 1.^{2/}

2/ This view of these parties apparently is confirmed by the prefiled direct written testimony of Dr. Milham in the GPU/DQE Transmission Line proceeding (Docket No. A-110300F051) and in the Hoffman-Minooka Transmission Line proceeding (Docket No. A-110500F0172). In these prefiled written testimonies, Dr. Milham says that, in his opinion, exposure to weak magnetic fields such as

1. The Commission Should Not Be Surprised That There Might Be "Scientific Experts" To Take Definitive, Unqualified Positions On Scientific Issues, Such As EMF, And The Commission Need Not Reopen The Record Over And Over Again To Hear The Testimony Of Every "Scientific Expert" Who Might Testify

As PP&L has noted previously in this proceeding (Initial Main Brief, p. 10), so-called "scientific experts" can be found to support almost any position before a court or other regulatory body, regardless of whether that person's position is generally accepted by the scientific community or whether that person's position is based on otherwise valid scientific reasoning. Therefore, it should not surprise this Commission that there may be, in fact, a "scientific expert" willing to make definitive, unqualified statements about EMF and health effects.

As Dr. M. Granger Morgan of Carnegie Mellon University has written in his recent publication, "What Can We Conclude From Measurements of Power Frequency Fields," in which he concludes that "we don't know if exposure to fields poses a risk to health":

As with many controversial technical problems, there are a handful of "experts" who are less careful and responsible than they should be. They are the source of the confident but contradictory statements you may have heard which make it sound like the experts are

(continued...)

(...continued)
those from power transmission and distribution lines, causes cancer in humans and that a "safe level" of magnetic field exposure is 1 mG or less.

completely confused. These people complicate life because in addition to having to come to grips with a very complex subject, the general public and public officials have to identify and sort out these biased experts from the majority who are careful and responsible. What Can We Conclude From Measurements of Power Frequency Fields, Carnegie Mellon University, 1993, p. 12.

Regardless of the existence of additional "scientific experts" who might testify in this proceeding, the record in this case is replete with overwhelming scientific evidence on this issue, including testimony sponsored by OCA, a body charged with independently representing the public interest. Such evidence is summarized below and clearly demonstrates that there is no conclusive link between EMF and adverse health effects and that there is no scientific basis for concluding that EMFs cause adverse health effects. Further, the record evidence in this case indicates that the scientific community does not generally accept the existence of any conclusive link between EMF and adverse health effects and does not generally conclude that EMFs cause adverse health effects.

Therefore, allegations that this case cannot be decided without hearing what one more additional witness would have said are groundless and should be rejected by this Commission. The Commission need not reopen the record over and over again to hear the testimony of every "scientific expert" who might testify, especially when there has been no

showing that any of the additional testimony sought to be introduced would be supported by scientific reasoning or would be generally within the accepted scientific community, and when the record already is replete with substantial scientific evidence on this issue.

2. The Extensive Record Evidence In This Case Demonstrates That There Is No Conclusive Link Between EMF And Adverse Health Effects And That There Is No Scientific Basis For Concluding That EMFs Cause Adverse Health Effects

The record evidence in this case, including the testimony of OCA's independent scientific experts, and the reports of every independent scientific panel that has reviewed the scientific literature on magnetic fields and health, including those that have reviewed the recent Swedish studies, demonstrates that there is no conclusive link between EMF and adverse health effects, including cancer, and that there is no present scientific basis for concluding that EMFs cause adverse health effects.

a. The Record Evidence In This Case On EMF And Health Is Extensive

First, in the remand proceeding, PECO submitted the direct testimony of Drs. Richard S. Bockman, Philip Cole and Edward P. Gelmann. Drs. Bockman, Cole and Gelmann reviewed the research related to EMF in the areas of Endocrinology and Immunology (Dr. Bockman), Epidemiology (Dr. Cole) and Molecular Genetics, Cellular Biology and Cancer (Dr. Gelmann). The

reputations and experience of these individuals, who are both medical doctors and distinguished scientists, are described in PP&L's Initial Main Brief and will not be repeated herein. In their testimony on remand, as in their initial testimony, they concluded as follows:

Endocrinology and Immunology

"...it is my opinion that power frequency electric and/or magnetic fields several times stronger than those experienced under transmission lines do not disrupt the Endocrine or Immune Systems..." PECO Direct on Remand St. No. 3, p. 5 (Dr. Bockman).

Epidemiology

"Taken together, the epidemiologic reports fail to demonstrate any strong or consistent pattern of association between EMF and cancer in human beings. The summation can only be that, to date, there is no demonstrated relationship between EMF and cancer in human beings." PECO Direct on Remand St. No. 4, p. 11 (Dr. Cole).

Molecular Genetics, Cellular Biology and Cancer

"...it is still my opinion that the scientific research provides no basis to conclude that power frequency fields cause, promote, or otherwise contribute to the development of cancer or other adverse health effects." PECO Direct on Remand St. No. 5, p. 5 (Dr. Gelmann).

PECO submitted similar testimony in the initial round of hearings in this proceeding.

In addition, in the remand proceeding, the OCA, an independent body charged with representing the public interest, presented the direct testimony of Mr. David E. Janes, who has "over thirty years of experience in analyzing the

effects and risks of exposure to ionizing radiation and electromagnetic fields." OCA St. No. 1B, p. 1. Mr. Janes concluded as follows:

"At this time, biophysical mechanisms for how weak fields might interact with biological systems to produce harm have not been demonstrated experimentally. Without a viable biophysical mechanism to connect them, the results of the epidemiological, animal, and cellular level studies alone are not strong enough to establish a causal link between exposure to power frequency fields and harmful effects. On the other hand, the experimental evidence makes the hypothesis of harmful effects plausible, and the possibility of harm cannot be summarily dismissed. This results in the unfortunate situation that even after considerable investigation and research, we are uncertain about whether or not exposure to weak power frequency electric and magnetic fields can cause harm." OCA St. No. 1B, p. 5.

OCA submitted similar testimony in the initial round of hearings in this proceeding.

3. The Recent Independent Scientific Panels That Have Reviewed The Scientific Literature On EMFs And Possible Health Effects Demonstrate That There Is No Conclusive Link Between EMF And Adverse Health Effects And That There Is No Scientific Basis For Concluding That EMFs Cause Adverse Health Effects

As PP&L has explained repeatedly in this proceeding, in addition to reviewing primary scientific literature, such as reports of published experiments and studies found in peer-reviewed journals, one other way of determining whether there is general scientific acceptance of a particular position is to examine the publicly-available reports of panels of scientific experts, independent of the utility industry, which have reviewed the scientific literature. When such

recent reports are reviewed, it is clear that the independent scientific and governmental panels which have recently reviewed the scientific literature on EMF and possible health effects have concluded that there is no present scientific basis upon which to conclude that EMFs pose a human health hazard.

Some of the recent reports cited in the testimony of the witnesses in this remand proceeding, including some reports which have considered specifically the new Swedish epidemiologic studies alleged by OTS to have such great importance (OTS Exceptions, pp. 8-9), have concluded as follows:

"The question whether ELF-EMF has a carcinogenic effect represents an intriguing scientific problem. ELF-EMF clearly cannot be exonerated, since very large and valid studies showing no association with cancer occurrence do not currently exist, but it is also clear that the available base of observation and theory does not satisfy major criteria for causal inference."

Oak Ridge Associated Universities Panel on Health Effects of Low Frequency Electric and Magnetic Fields, "Health Effects of low frequency electric and magnetic fields." Report prepared by an Oak Ridge Associated Universities Panel for the Committee on Interagency Radiation Research and Policy Protection (June, 1992). Cited in PECO Direct on Remand St. No. 4, p. 6, and in OCA St. No. 1B, p. 2.

<p>"Because the two Swedish studies were made public when the ORAU report was already in the printing process, we consider it necessary to indicate that, in our opinion, the evidence presented in these studies is not sufficiently compelling to alter the conclusions of the ORAU report."</p>	<p>Oak Ridge Associated Universities Panel on Health Effects of Low-Frequency Electric and Magnetic Fields, "EMF and Cancer," 260 Science 13-14 (April 2, 1993). Cited in PECO Direct on Remand St. No. 4, p. 6.</p>
<p>"In summary, the epidemiological findings that have been reviewed provide no firm evidence of the existence of a carcinogenic hazard from exposure of paternal gonads, the fetus, children, or adults to extremely low frequency electromagnetic fields that might be associated with residence near major sources of electricity supply, the use of electrical appliances, or working in the electrical, electronics, and telecommunications industry."</p>	<p>Advisory Group on Non-Ionising Radiation (Sir Richard Doll, Chairman) "Electromagnetic fields and the risk of cancer," National Radiological Protection Board (U.K.), 3 Documents of the NRPB (1992). Cited in PECO Direct on Remand St. No. 4, p. 5, and in OCA St. No. 1B, p. 2.</p>
<p>Recent studies, including the Swedish Residential study, "...do not establish that exposure to EMF is a cause of cancer, although they provide weak evidence to suggest the possibility exists."</p>	<p>Advisory Group on Non-Ionising Radiation (Sir Richard Doll, Chairman) "Electromagnetic Fields and the risk of cancer," National Radiological Protection Board (U.K.), (March 23, 1993). Cited in PECO Direct on Remand St. No. 4, p. 5</p>

These independent reports reinforce the conclusion that there is no scientific basis for concluding that EMFs (or magnetic fields alone) cause adverse health effects in humans. Further, these reports indicate that the Swedish studies do not provide a scientific basis for concluding that

EMFs cause adverse health effects. These reports by panels of distinguished scientists directly contradict any opinion that it has been established that magnetic fields actually cause cancer in humans. Therefore, any opinion finding causation of health effects and known hazardous levels is directly opposite to the opinions of the distinguished panels of scientists who have reviewed the literature in this area.

- B. Despite The Fact That PECO Should Be Permitted To Energize This Line Immediately, The ALJ and The Commission Should Also Take Immediate, Concrete Steps To Begin To Address Public Concern About Possible Adverse Health Effects From EMF

The exceptions of several parties contain references to various requests that the Commission take immediate regulatory action to address public concerns over EMF, a position which PP&L has espoused for some time. See e.g., Exceptions of OTS, pp. 10-11; Exceptions of OCA, p. 3. By way of reply, while PP&L agrees with the notion that the Commission should immediately take action on this issue beyond merely permitting this line to be energized, PP&L has made a specific proposal for regulation action over EMFs.

PP&L strongly urges the Commission to take immediate, concrete steps to begin to address the concern that some members of the public have expressed over the EMF issue in this case, even though the scientific evidence does not provide any basis to conclude that EMFs cause adverse health effects. Further, as the Commission is aware, the EMF issue concerns many more citizens of this Commonwealth than just

those who protested and testified in this case. Such broader concern among some members of the public serves to underscore the need for Commission action.

It is PP&L's position that the total record of this proceeding and how it arose and developed, taken as a whole, shows that electric utilities in this Commonwealth should be actively engaged in a proactive, aggressive and comprehensive EMF policy designed to address up front, in advance, and to the extent reasonably possible, the concerns about the EMF issue currently expressed by some members of the public. At the same time, the total record in this proceeding shows that PECO should be permitted to energize the Woodbourne-Heaton 230 kV Line immediately, without further delay.

Therefore, the Commission should permit this line to be energized and simultaneously begin to address public concern about EMF by mandating that all utilities in this Commonwealth undertake a comprehensive EMF policy consistent with principles of prudent avoidance. Specifically, PP&L proposes that the Commission take the following actions based on the record in this case:

- Permit PECO to energize the Woodbourne-Heaton Line without further delay based on, among other things, the ALJ's extensive previous findings that the line meets standards of "prudent avoidance."
- Institute either a policy statement proceeding or a rulemaking proceeding to mandate that all electric utilities in the Commonwealth adopt a comprehensive EMF policy as explained below.
- Expressly state that any transmission line siting proceeding either currently pending or filed before

the final promulgation of the policy statement or regulations, will not be delayed but will be decided on its individual merits as is current Commission practice.

1. Elements Of The Mandated Comprehensive EMF Policy Proposed By PP&L

Specifically, as part of its final order in this case, the Commission should open either a rulemaking proceeding or a policy statement proceeding in which the Commission would mandate that all utilities institute a comprehensive EMF policy. This mandated comprehensive EMF policy would be aimed directly at addressing the concerns of the public over EMF instead of attempting to set either similarity-based or arbitrary EMF standards. The comprehensive EMF policy mandated by the Commission should consist of the following elements:

Support for EMF Research

- Electric utilities, through support of the Electric Power Research Institute (EPRI) and other means, shall support research into EMFs, EMF management and reduction technologies and possible health effects of EMFs.

Dissemination of EMF Information

- Electric utilities shall prepare and make available to the public easily understandable information about EMFs and the results of research into possible human health effects of EMF. Electric utilities shall regularly update these materials as new scientific evidence becomes available.

Provision of EMF Measurements

- Electric utilities shall provide or arrange for EMF measurements for any customers or affected property owners who request such measurements.

Establishment of Magnetic Field Management Plan

- Electric utilities shall establish flexible plans for reducing Magnetic Fields and exposure to Magnetic Fields at low cost or no cost, where practicable, in new or reconstructed transmission lines. An electric utility's Magnetic Field Management Plans shall include, at a minimum, the following elements: consideration of transmission line design and construction techniques which could reduce Magnetic Fields at low or no cost, such as alternative line configurations and higher ground clearances, and consideration of population density and location of public facilities in the route selection and evaluation process. Electric utilities shall include in all siting applications and letters of notification information explaining application of their Magnetic Field Management Plans.

Involvement of the Public in the Transmission Line Siting Process

- Electric utilities shall involve the public directly at each stage of the transmission line siting process, namely the gathering of data, the selection of alternative routes and the selection of preferred routes. EMFs and EMF Management Plans and techniques shall be considered and discussed with the public at all stages of the siting process.

2. The Mandated EMF Policy Proposed By PP&L Addresses Public Concerns Over EMFs

The mandated EMF Policy proposed by PP&L would be a concrete step toward addressing the public's concerns over EMFs. PP&L's proposal would ensure that utilities are taking steps designed to address the public's concerns in a positive

way through research, communications, measurements and field management and to involve the public in the decision-making process through mandated, early involvement in the siting process. Other actions, such as similarity based EMF edge of right-of-way standards or holding additional hearings in this proceeding, simply would not address the public's concerns about EMF, as does PP&L's proposal.

This approach of mandating prudent EMF policies to be pursued by electric utilities has been employed by other states in an attempt to address EMF concerns. For instance, the Wisconsin Public Service Commission rejected calls for a moratorium in favor of expansion of its previously mandated prudent EMF measures. See, e.g., Re Advance Plans for Construction of Facilities, 138 P.U.R. 4th 193 (Wisconsin P.S.C. 1992).

Further, adoption by the Commission of a mandated EMF policy for electric utilities would establish some level of uniformity among utilities in the Commonwealth. While some electric utilities are already undertaking all of the suggested elements of the mandated EMF Policy, other electric utilities may be undertaking only some of these steps. A mandated statewide policy would provide uniformity and guidance as to which EMF-related actions electric utilities in the Commonwealth should pursue. Such a mandated statewide policy would also ensure that these actions were taking place in advance of transmission line filings.

3. The Mandated EMF Policy Proposed By PP&L Is Consistent With The Principle Of "Prudent Avoidance" And The Prudence Measures Suggested By The OCA

PP&L intentionally has avoided the term "prudent avoidance" both in its internal policies on EMF and in its proposed statewide EMF policy, even though both its internal policies and the proposed statewide EMF policy follow the principles of "prudent avoidance." As correctly noted by the ALJ previously, the term "prudent avoidance" is merely a framework for analyzing actions relating to EMFs in light of the scientific uncertainty and not a definable term. I.D. issued August 19, 1992, at 198-99.

Further, as shown by the evidence in this case, the term "prudent avoidance" itself is capable of different interpretations, especially by lay persons who tend to interpret the term as meaning "it is prudent to avoid any exposures to EMFs." See, e.g., I.D. issued August 19, 1992 at 131. At least one utility commissioner has written that the term "prudent avoidance" itself "borders on being merely clever verbiage which means different things to different people." Supra, 138 P.U.R. 4th at 204. OCA apparently prefers the terminology "prudent policy in the face of uncertainty." OCA St. No. 2, pp. 7-8. OCA St. No. 1B, pp. 15-16.

In any event, notwithstanding concerns about the term "prudent avoidance," PP&L's proposed statewide EMF policy is consistent with principles of "prudent avoidance,"

as articulated in this proceeding. PECO Reb. St. No. 6, pp. 15-19; I.D. issued August 19, 1992 at 198-99; I.D. issued July 23, 1992 at p. 52. Further, the mandated EMF policy proposed by PP&L is consistent with the recommended prudent policy in the face of uncertainty that is espoused by OCA. OCA St. No. 2, p. 8. OCA St. No. 1B, pp. 15-16; I.D. issued July 23, 1992, at p. 52.

In fact, OCA's suggested prudence measures are very similar to those suggested by PP&L and include the following:

- Research into the effects of electric and magnetic fields should be continued.
- The government and the industry should be aggressive in periodically informing the public about the latest information, stressing its uncertainty and changeability. This needs to be done in an absolutely impartial manner and before it is required.
- The public should be involved in the decision making process before critical decisions are made. This is not at all the same thing as having public meetings or private sessions with concerned individuals to convince them after the decision is made.
- At the very least, companies considering power line projects should consider the cost and effects of possible mitigative measures before any construction is decided on.

Mitigative measures that should be considered before construction begins may include, but are not limited to:

- avoiding heavily populated areas
- avoiding parks, schools, and other public facilities
- widening rights-of-way
- limiting public uses of rights-of-way
- using higher ground clearances
- designing the power lines to reduce the fields

- In planning one should err on the side of safety, but not without considering the cost. OCA St. No. 1B, pp. 15-16; I.D. issued July 23, 1992, at p. 52.

4. Nothing Would Be Served By Further Delaying Energization Of The Woodbourne-Heaton Line

Further, given the ALJ's extensive findings regarding the Woodbourne-Heaton Line's compliance with principles of prudent avoidance (See I.D. issued August 19, 1992, at pp. 134, 205-207; I.D. issued July 23, 1992, at p. 52) and the Commission's previous determinations about compliance with the Commission's regulations, no purpose would be served by further delaying energization of this line. There is simply nothing else left for the Commission to do with regard to this line but to permit its energization, to move forward and to mandate policies which address public concern about this issue and which might minimize or prevent similar litigation in the future.

PP&L's proposed solution provides a better means of moving forward constructively than would any proposal to further delay energization and adopt extremely questionable standards or hold additional hearings.

5. PP&L's Proposed Solution Attempts To Eliminate Any Concerns About A De Facto Moratorium

Finally, PP&L's proposed solution should eliminate any concerns about a de facto moratorium over new transmission line siting and construction. If the Commission clearly states that new siting and construction is to continue during

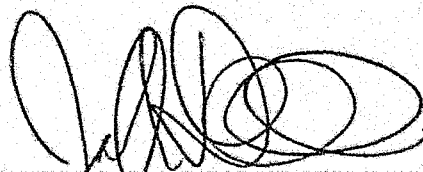
any delay in promulgation of a policy statement or regulation, the Commission can prevent increases of magnetic field levels on existing facilities and permit electric utilities to continue to meet their statutory obligations to provide reasonably adequate and economic service during the pendency of the EMF policy statement or regulation proceeding.

III. CONCLUSION

WHEREFORE, for all the foregoing reasons, and the reasons explained in PP&L's Main Brief on Remand, the Pennsylvania Public Utility Commission should: 1) affirm the Administrative Law Judge's Initial Decision on Remand; 2) permit the Woodbourne-Heaton Line to be energized; 3) institute a proceeding which would mandate that all electric utilities in the Commonwealth adopt a comprehensive EMF Policy; and 4) state expressly that line siting applications currently pending and received during the pendency of the regulation or policy statement proceeding on EMF will not be

delayed pending the outcome of the EMF proceeding, but will be decided on their individual merits in accordance with present procedures.

Respectfully Submitted,

A handwritten signature in black ink, appearing to be 'Jesse A. Dillon', written over a horizontal line.

Jesse A. Dillon, Esquire
Pennsylvania Power & Light
Company
Two North Ninth Street
Allentown, Pennsylvania 18101
(215) 774-5013

Dated: August 20, 1993

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

In re: Letter of :
Notification of Philadelphia :
Electric Company Relative to :
Reconstructing and Rebuilding : Docket No.
of the Existing 138 kV Line to : A-110550.F055
Operate as a Woodbourne-Heaton :
230 kV Line in Montgomery and :
Bucks Counties :

CERTIFICATE OF SERVICE

I hereby certify that I have this date served a true copy of the foregoing document upon the participants, listed below, in accordance with the requirements of § 1.54 (relating to service by a participant):

VIA FIRST CLASS MAIL

The Honorable Herbert S. Smolen
Administrative Law Judge
Pennsylvania Public Utility Commission
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Broad and Spring Garden Streets
Philadelphia, Pennsylvania 19130

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Dianne E. Dusman, Esquire
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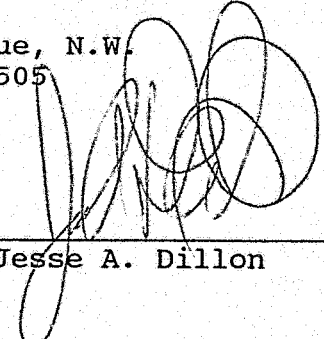
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Jesse A. Dillon

Dated: August 20, 1993
at Allentown, Pennsylvania



ORIGINAL

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

August 23, 1993

IN REPLY PLEASE
REFER TO OUR FILE

John G. Alford
Pennsylvania Public Utility Commission
Room G-23, North Office Building
Harrisburg, PA 17105-3265

Re: Letter of Notification of Philadelphia
Electric Company Relative to the
Reconductoring and Rebuilding of the
Existing 138 kV Line to Operate as the
Woodbourne-Heaton 230 kV Line,
Docket No. A-110500, F.055

Dear Secretary Alford:

Enclosed please find for filing an original and nine
copies of the Reply Exceptions on Remand of the Law Bureau
Prosecutory Staff in the above-captioned proceeding.

Copies have been served on all parties of record as shown
on the attached Certificate of Service.

Sincerely,

Patricia Krise Burket
Assistant Counsel

Enclosures

cc: ALJ Smolen
All Parties of Record

DOCUMENT
FOLDER

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Letter of Notification of :
Philadelphia Electric Company :
Relative to Reconstructing : Docket No.
and Rebuilding of the Existing : A-110550, F.055
138 kV Line to Operate as the :
Woodbourne-Heaton 230 kV Line :
in Montgomery and Bucks :
Counties :

REC'D
GENERAL DIV.
AUG 27 1989

REPLY EXCEPTIONS ON REMAND OF THE COMMISSION
LAW BUREAU PROSECUTORY STAFF

AND NOW, pursuant to 52 Pa. Code §5.535(a), the Commission Law Bureau Prosecutory Staff (Prosecutory Staff) submits the following reply exceptions:

INTRODUCTION

On November 21, 1989, Philadelphia Electric Company (PECO) filed a letter of notification pursuant to Commission transmission siting regulations at 52 Pa. Code §57.72(d)(1) to reconstruct as the Woodbourne-Heaton 230 kV line a former 138 kV railroad transmission line owned by Consolidated Rail Corporation (Conrail). The railroad transmission line was located along the rail line known as the "Trenton Cut-Off Branch freight line." PECO had purchased an easement along the rail line together with the structures supporting the old 138 kV line. By order entered February 3, 1990, the Commission approved PECO's letter of notification.

DOCKETED
AUG 27 1989

**DOCUMENT
FOLDER**

On September 14, 1990, the Protestants filed an Emergency Petition of Non-Noticed Property Owners to Intervene for Reopening and to Suspend Approval. In their pleading, Protestants alleged that they did not receive notice of the proposed reconstruction of the transmission line and that they were entitled to notice because they owned air space adjacent to the right-of-way through which electromagnetic fields (EMF) from the line could be dispersed. The Protestants argued that one of the Protestants owned property within PECO's right-of-way. No evidence of this claimed ownership was attached to the petition. They also alleged that PECO improperly used the letter of notification proceeding and requested that the proceeding be reopened so that the Protestants might address issues of local zoning, diminution of property values, aesthetics, increased risks of fires, and the risk of EMF from the line causing cancer. Protestants are members of the group PAUSE (Parents Against an Unsafe Environment) and live along the railroad corridor.

On March 8, 1991, the Commission entered an order denying Protestants' Emergency Petition for Reopening and their request for stay of construction of the line. In denying their request for reopening, the Commission found PECO correctly used the letter of notification procedure because it was rebuilding an old railroad transmission line and that the Protestants did not own any property in the right-of-way and, under Commission siting regulations, were not entitled to be served with notice of the letter of notification.

Applying standards for recision of a final Commission order in Kea v. Peoples Natural Gas Co., 60 Pa. PUC 215, 216 (1985), the Commission determined that the Protestants had not raised any novel issues which had not been raised in any other transmission line cases, and concluded that it was unnecessary to reopen a proceeding where PECO had followed all of the applicable regulations.

In denying the Protestants' request for stay, which was included in the Emergency Petition, the Commission applying standards as set out in Pa.PUC v. Process Gas Consumers Group, 502 Pa. 545, 467 A.2d 805 (1983), determined that the Protestants had not shown that they would suffer immediate, irreparable harm if the stay was not granted or that the public interest or PECO would not be harmed if the stay was granted.

On April 2, 1991, the Protestants filed with Commonwealth Court a petition for review of the Commission's March 8, 1991 order. Robert Small, et al. v. Pa. P.U.C., No. 761 C.D. 1991. On this same date, the Protestants filed with the Commission the Petition of Small, et al. for Stay Pending Appeal. In this filing, Protestants requested a stay of construction of the Woodbourne-Heaton line pending resolution of their appeal to Commonwealth Court. On April 15, 1991, PECO filed with the Commission an answer to this petition.

On April 26, 1991, the Petitioners filed with Commonwealth Court a Petition for Stay Pending Review of the Commission's March 8, 1991 order. On May 8, 1991, the Commission

entered its order denying the Petition of Small, et al. for Stay Pending Appeal. On May 13, 1991, the Commission filed its answer to the Commonwealth Court petition for stay arguing that the Protestants had not satisfied any of the criteria for stay under Pa. P.U.C. v. Process Gas Consumers Group, 502 Pa. 545, 467 A.2d 805 (1983). Oral argument was held before Commonwealth Court Judge Madeline Palladino on May 22, 1991. At oral argument, counsel for PAUSE, for the first time, formally requested that the Commonwealth Court remand the appeal to the Commission for hearing.

On May 24, 1991, Judge Palladino, without the benefit of full briefing of the facts at issue, issued an order which concluded that "Petitioners [Protestants] are entitled to a hearing on the question of whether they will be adversely affected by the reconductoring of the high tension electrical line at issue in [the] case." The Judge also ordered the appeal to be remanded to the Commission for a hearing on this issue within 90 days of the date of the order. On May 29, 1991, Judge Palladino issued a supplemental order relinquishing jurisdiction over the appeal.

On June 14, 1991, the Commission entered an order which directed that the record be reopened for hearing and the determination of the sole issue of whether Protestants would be adversely affected by the reconductoring of the former Conrail line. On June 26, 1991, the Prosecutory Staff entered its appearance in this case.

On August 15, 1991, PECO witnesses testified at hearing about the manner in which the Woodbourne-Heaton 230 KV line was

designed and sited and about the level of electromagnetic fields which were expected to be generated by the line. Ten more days of hearing were held at which Protestants, PECO and the Office of Consumer Advocate (OCA) presented lay and expert testimony regarding the alleged health effects of EMF in general and the land use criteria which should be utilized in siting and designing high voltage transmission lines. The last hearing date was February 7, 1992. As a result of these hearings, nearly 1500 pages of testimony were generated and more than 30 separate exhibits were introduced into evidence.

On August 19, 1992, Administrative Law Judge (ALJ) Herbert Smolen issued an Initial Decision wherein he denied in part and sustained in part the protest to the siting application. Specifically, he dismissed the protest insofar as it sought a determination that exposure to electromagnetic fields causes adverse health effects. Although he found that the Protestants owned no property in the right-of-way of the line (Initial Decision entered August 19, 1992, pp. 131-132), he sustained the protest insofar as it sought a determination that energization of the Woodbourne-Heaton line at this time will result in adverse land-use impacts by reason of the fear of potential human health effects. In his Initial Decision, ALJ Smolen recommended that the Woodbourne-Heaton line not be energized pending consideration by the Commission of the adoption and implementation of electromagnetic field standards.

Exceptions were filed by PECO, Prosecutory Staff, the Commission's Office of Trial Staff (OTS), OCA and Pennsylvania Power and Light Company (PP&L). The Protestants, OTS and the other parties to this proceeding filed replies to exceptions.

On March 26, 1993, the Commission entered an order that remanded the proceeding to the Office of Administrative Law Judge for the purpose of:

- a. receiving evidence and comment regarding all studies of the health effects of magnetic fields which are available on or before the hearings on that evidence commence; and
- b. determining in light of findings regarding health effects, what, if any, standards should exist for right-of-way width for the Woodbourne-Heaton 230 kV line.

Commission order entered March 26, 1993, at Docket No. A-110550,F.055, p. 23.

The Commission's order further established a 120-day time period during which the ALJ was to issue a supplemental Initial Decision on these issues. The Commission also gave OTS leave to participate in the proceeding.

On May 11, 1993, OTS filed a petition asking for reconsideration of the Commission's March 26, 1993 order. Specifically, OTS asked the Commission to reconsider the 120-day time limit established for the remand proceeding and to consider expanding the scope of the hearing so as to include reasonableness of fear of EMF along with other issues inherent in siting proceedings. On May 18, 1993, Protestants filed a response supporting the OTS petition. On May 24, 1993, PECO filed an answer

opposing the OTS petition. On June 2, 1993, OTS filed a "Petition for Permission to File Response to PECO" and its proposed response. On June 7, 1993, PECO filed a "Petition to File an Additional Response" and its response. On June 10, 1993, the Commission issued an order denying the OTS petition for reconsideration of its March 26, 1993 order.

On May 27, 28 and June 1, 1993, hearings in the remanded proceeding were held before ALJ Smolen. Direct testimony was presented by six witnesses on behalf of PECO and one witness on behalf of the OCA. The testimony of two rebuttal witnesses was also offered by PECO. No witnesses were presented by Prosecutory Staff, PP&L, Protestants, or OTS.

On July 23, 1993, ALJ Smolen issued a Supplemental Initial Decision in which he affirmed the Commission's February 9, 1990 order approving the letter of notification for the Woodbourne-Heaton 230 KV line. In so doing, he concluded that the establishment of specific numerical edge of right-of-way standards for the line were not supported by substantial evidence of record in this proceeding.

REPLY EXCEPTIONS

- I. The ALJ conducted the remand hearing in accordance with the Commission's March 26, 1993 order, which established a 120-day time limit for completion of the remand of this proceeding.

Protestants' Exception No. 1¹ reads as follows:

1. The Honorable Administrative Law Judge erred in failing to require adequate multi-party participation, [sic] as a condition to being able to respond to the Commission's direction to update the scientific evidence. The Honorable ALJ was limited to evidence, virtually all of which was provided by the same witnesses whose testimony had previously been rejected as a basis for Commission decision, namely Dr. Gelman [sic] and Cole. Likewise, the applicants' [sic] in-house witnesses had previously supported ignoring electromagnetic fields, contrary to this Commission's determination.

In the supporting statement for this exception, the Protestants criticize the ALJ for not informing the Commission that he was unable to comply with the Commission directive because of the inability of Protestants, due to lack of financial resources, and OTS, because of time constraints, to present witnesses.

The Prosecutory Staff submits that this exception should be denied for two reasons. First, the exception is not directed to a specific finding of fact nor conclusion of law and should be

¹ The Prosecutory Staff notes that Protestants filed individual exceptions separate and apart from those submitted by the group's counsel. Since the arguments contained in the individual Protestants' exceptions are identical to the ones presented by their counsel, they will not be addressed individually.

denied on its face for failure to comply with 52 Pa. Code §5.533(b).

Secondly, the ALJ was operating under the time schedule for hearing as established under the Commission's March 26, 1993 order, and had no actual knowledge of the extent of the alleged difficulties OTS was experiencing in regard to securing Dr. Samuel Milham as an expert witness. This fact was disclosed to ALJ Smolen and the other parties in the OTS petition for reconsideration of the Commission's March 26, 1993 order² on May 11, 1993, the date on which it was filed. Under these circumstances, ALJ Smolen cannot be faulted for not informing the Commission that more time was allegedly needed for hearing as the OTS petition for reconsideration was already pending before it.

Moreover, in a June 10, 1993 order, the Commission denied OTS's untimely filed petition for reconsideration which requested expansion of the hearing time schedule for an indefinite period of time. The Commission indicated that OTS' notification of its difficulty in securing their expert witness was untimely. Order entered June 10, 1993, p. 6. Accordingly, this exception should be denied.

² This disclosure was made by OTS the day before the written direct testimony was due to be filed by the parties, even though OTS knew as early as April 29, 1993, OTS Petition for Reconsideration, p. 4, that Dr. Milham could not begin work for them for at least 4-6 weeks.

II. Protestants' Exceptions Nos. 2, 3, 4 and 6 should be dismissed as they do not comply with the Commission's regulation 52 Pa. Code §5.533(b).

Protestants' Exceptions Nos. 2, 3, 4 and 6 are bald assertions that criticize the ALJ's evaluation of the record testimony in this proceeding, misrepresent record testimony, and complain regarding the acceptance or non-acceptance of that testimony by the ALJ and the Commission in prior decisions. The Protestants' Exceptions No. 2, 3, 4 and 6 read as follows:

2. The ALJ erred in giving credibility to the applicants' [sic] witnesses, who had previously been rejected.

The ALJ himself recognized the inadequacy of the record through his repeated reference to the fact that this record was good for this proceeding only. This qualification is a "poison pill" which demonstrates the failure of the Commission to evaluate the public interest.

3. The ALJ erred in failing to take into consideration, or to acknowledge, that the witnesses had admitted on cross examination that their conclusion that there was "no basis to conclude" that EMF causes health effects, was simply an avoidance of the decision, rather than a decision. In their previous testimony, both witnesses were unable to testify concerning the known effects of EMF on health, where EMF is used clinically to enhance bone healing, although these clinical practices are carried on at their own hospitals.
4. The ALJ erred in ignoring the witnesses' ignorance of the role of magnetites, which have been demonstrated to be present in the human body, and to have a role in the mechanism by which electromagnetic fields affect the body, although the witnesses were confronted with recent studies showing those effects.

6. The ALJ erred in applying prudent avoidance tests, and in defining prudent avoidance based on some obsolete lack of evidence of the EMF health effects, whereas, given the increased level of probability, the concept of prudent avoidance now requires more expenditure, i.e., what is prudent changes with the information available.

The Commission's regulation at 52 Pa. Code §5.533(b) reads as follows:

§5.533. Procedure to except to initial, tentative and recommended decisions.

(b) An exception shall be stated in specific, numbered paragraphs, identify the finding of fact or conclusion of law to which exception is taken and cite relevant pages of the decision. Supporting reasons for the exception shall follow a specific exception.

As the Protestants' Exceptions No. 2, 3, 4 and 6 do not identify the findings of fact or conclusions of law in the ALJ's Initial Decision to which the specific exception is taken, they are defective on their face and should be denied pursuant to 52 Pa. Code §5.533.

Moreover, the Protestants provide no citations to record evidence to support such statements involving the applicant's witnesses' inability "to testify concerning the known health effects of EMF on health, where EMF is used clinically to enhance bone healing" (Protestants' Exception No. 3), or ignorance as to "the role of magnetites, which have been demonstrated to be present in the human body and to have a role in the mechanism by which

electromagnetic fields affect the body" (Protestants' Exception No. 4).

Prosecutory Staff notes that there is absolutely no sworn testimony in the record, not even from the Protestants' own expert, Dr. Abraham Liboff, to support any statement regarding the certainty of magnetite as a mechanism for alleged adverse health effects of EMF. In fact, Dr. Edward Gelmann testified that he was not confident that there was a mechanism involving EMF for cancer because to his knowledge there is no relationship between magnetite and the functioning of RNA (N.T. p. 1708).

Prosecutory Staff is at a loss to explain the Protestants' complaint regarding the manner in which the ALJ applied prudent avoidance because of the alleged "increased level of probability [of EMF's alleged health effects]" (Protestants' Exception No. 6). Neither the record in the initial hearing phase nor remand hearing phase of this proceeding contains any evidence to support this so-called "increased probability." Also, neither ALJ Smolen in his August 19, 1992 or his July 13, 1993 Initial Decision nor the Commission in its March 26, 1993 order recognize this alleged "increased probability." There is no supporting basis for the Protestants' allegation that there is an increased level of probability of EMF's alleged adverse health effects so as to require a change in application of the concept of prudent avoidance.

Likewise, the Protestants' claim that the testimony of unidentified applicant's witnesses had been previously rejected is

without basis, (Protestants' Exception No. 2). The ALJ specifically used the testimony of these witnesses as the basis for numerous findings of fact made in his August 19, 1992 Initial Decision, specifically Findings of Fact No. 1-15, 17, 19-20, 22-36, 39-40, 44-49, 51-52 and 55-59, (Initial Decision, pp. 117-130). All but Findings No. 1-15 and 58-59 were discussed in the Commission's March 26, 1993 order.

For all of the above reasons, the Protestants' Exceptions No. 2, 3, 4 and 6 should be denied.

III. The Commission cannot order utilities to purchase non-condemnable property nor is the Commission authorized to award attorneys' fees and other costs of litigation.

Protestants' Exceptions No. 5, 7 and 8 relate to damages and read as follows:

5. The ALJ erred in failing to reflect the petitioners-protestants recommendations that the houses of the protestants be purchased^[3], which would have entailed considerably smaller expenditures than to buy the homes of all the neighbors, many of whom have not protested, and many of which are not residential properties. The ALJ erred in failing to make any finding as to the appropriateness of such mitigation.
7. The ALJ erred in failing to order that the protestants be funded to carry their case forward, in view of the hardships imposed upon them by the Commission's previous

³ The Protestants' initial request made in their May 14, 1993 formal statement of position was not limited to PECO purchasing Protestants' properties. Their original position was that PECO should purchase all properties any of which have levels greater than 1.0 milligauss of magnetic field for more than 5% of the time.

errors, and the deprivation inflicted upon them.

8. The ALJ erred in concluding that awarding costs or funding for presentation is unauthorized as being damages or in the nature of damages; to the contrary, in its oversight function of utilities, the Commission has discretion to insure that the public interest is adequately reflected.

No legal support is offered by the Protestants to support their claims of ALJ error.

On their face, these exceptions should be denied for failure to conform with the Commission regulation which requires that supporting reasons should be given for each specific exception. 52 Pa. Code §5.533(b). Moreover, these exceptions should also be denied as the award of attorney's fees and costs of litigation are extraordinary remedies involving damages which the Commission is not authorized to grant under Pennsylvania or federal law. Moreover, the ordering of a utility to purchase non-condemnable property is outside the scope of the Commission's authority to regulate public utility service.

In situations where the assessment and/or award of damages has been requested by persons alleging unreasonable public utility service of facilities under 66 Pa. C.S. §1501, the Pennsylvania Supreme Court has determined that the Commission has no authority to award damages. Feingold v. Bell Telephone Co. of Pa., 477 Pa. 1, 383 A.2d 791 (1977); Elkin v. Bell Telephone Co. of Pa., 49 Pa. 123, 420 A.2d 371 (1980).

Commission's siting regulations, 52 Pa. Code §§57.71, et seq., pursuant to which PECO's letter of notification for the Woodbourne-Heaton 230 kV line was filed, were promulgated under Sections 401 and 412 of the Public Utility Law, May 28, 1937, P.L. 1053, No. 286, now 66 Pa. Code §§1501 and 1504. Accordingly, under the aforecited case law, the Protestants' requests for attorney's fees and for the Commission to order PECO to purchase their homes, which may be construed as requests for damages under Sections 1501 and 1504 of the Public Utility Code, are outside the scope of Commission authority to grant, and should be denied.

Protestants' Exception No. 5 and its inherent requested relief for PECO to purchase their properties should be denied for policy reasons. The edges of the Protestants' properties lie from 37 feet to in excess of 200 feet from the Woodbourne-Heaton 230 kV line (ALJ Smolen's August 19, 1992 Initial Decision, pp. 131-132, Finding of Fact No. 65). Because the properties lie closer than 300 feet from the line, PECO is statutorily restricted from using its power of eminent domain to acquire these properties. 15 Pa. C.S. §1511(b). Assuming arguendo that the Commission could legally order PECO to acquire these properties, PECO would have to meet any price the Protestants named. Since the only legitimate reason to order the utility to acquire these properties would be safety based -- to establish an EMF-free zone -- it would be necessary for PECO to buy all of the properties along the corridor at any price their owners wanted, and to utilize the properties solely for utility purposes. As such, it would be property used and useful for

providing public utility service and would be includable in rate base. Because the properties would be acquired at the Commission's direction, the expenditures for the properties would have to be deemed prudently incurred costs subject to recoupment in rates. Thus, all PECO ratepayers would be required to pay for the Protestants' properties. For policy reasons, the Protestants' Exception No. 5 and the requested relief contained therein should be denied.⁴

Moreover, in regard to attorneys' fees and costs of litigation which are the subjects of Protestants' Exception No. 7, the Prosecutory Staff repeats the arguments which it presented in our Reply Brief on Remand, dated June 22, 1993, pp. 11-13 (footnotes omitted):

The Judicial Code, 42 Pa. C.S. §2503, which applies only to the components of the unified judicial system of which the Commission is not a part, does not authorize the Commission to award attorneys' fees. See, Duquesne Light Company v. Pa.PUC, 117 Pa. Commonwealth Ct. 28, 543 A.2d 196 (1988), appeal granted, 521 Pa. 632, 558 A.2d 533

⁴ Prosecutory Staff also notes that any money damages which could be claimed by Protestants and other future private litigants pursuing personal injury or inverse condemnation claims against PECO or any other electric utility would also be borne by the utility's ratepayers. EMF is generated from all electric transmission, distribution and service lines as a necessary consequence of providing electric utility service. Damages awarded by courts based on the determination by this Commission, the agency expert in utility service matters to which the courts will defer, that fear of EMF is reasonable would be considered to be operational expenses, and not penalties. Utilities would legally be allowed to recoup these damage awards to private litigants from ratepayers. Thus, the result of finding reasonable fear of EMF based on inconclusive scientific evidence of an actual safety hazard would result in raising the rate of every electric utility in the Commonwealth which would not be in the public interest.

(1989). See also, Pleasant Valley School District v. Department of Community Affairs, 127 Pa. Commonwealth Ct. 85, 560 A.2d 935 (1980).

Federal law, specifically the Public Utility Regulatory Policy Act (PURPA), 16 U.S.C. §§2601, et seq., also does not provide a basis upon which the Commission can require PECO to pay the attorneys' fees of the Protestants. The specific PURPA section dealing with attorneys' fees, 16 U.S.C. §2632(a)(1), reads as follows:

§2632 Consumer representation.

(a) Compensation for costs of participation or intervention.

(1) If no alternative means for assuring representation of electric consumers is adopted in accordance with subsection (b) of this section and if an electric consumer of an electric utility substantially contributed to the approval, in whole or in part, of a position advocated by such consumer in a proceeding concerning such utility, and relating to any standard set forth in subchapter II of this chapter, such utility shall be liable to compensate such consumer (pursuant to paragraph (2)) for reasonable attorneys' fees, expert witness fees, and other reasonable costs incurred in preparation and advocacy of such position in such proceeding (including fees and costs of obtaining judicial review of any determination made in such proceeding with respect to such position).

16 U.S.C. §2632 (emphasis added).

The Prosecutory Staff notes that this statute is inapplicable to the instant proceeding as the issues involved in PECO's Woodbourne-Heaton Letter of Notification do not relate to any standard set out in Subchapter II of Chapter 46, 16 U.S.C. §§2621-2627. Standards set out in Subchapter II generally relate to rate matters. See also, Pa. Public Utility Commission v. Duquesne Light Co., (Docket No. R-811470) 61 Pa. PUC 485 (1986) in

which the Commission rejected an intervenor's petition for attorneys' fees. Although the Commission determined it was without statutory authority to award attorney fees, the Commission relied on 16 U.S.C. §2632(a) for guidance from a policy stand-point. The Commission determined that the presence of the Office of Consumer Advocate in Pennsylvania provides an alternate means of compensating persons representing an interest in Commission proceedings which exempts Pennsylvania from the provisions of 16 U.S.C. §2632(a).

For the above reasons, Protestants' Exceptions No. 5, 7 and 8 should be denied.

IV. The Law Bureau Prosecutory Staff is independent of the Commission's direction and represents the Commission staff's positions on the alleged adverse health effects of electromagnetic fields, the adoption of the policy of prudent avoidance and interpretation of the Public Utility Code and the Commission's siting regulations consistent with the public interest.

Protestants' Exception No. 13 reads as follows:

13. The Commission denied due process by permitting the Law Bureau of the Commission to act as an advocate of the utility, thereby affording additional resources to the utility, while denying them to the protestants; the participation of the Law Bureau as an adjunct to the utility was a denial of due process by the Commission, and a denial of equal protection.

No supporting reasons or citations of applicable case law or statute are given by the Protestants for this exception. Accordingly, it should be denied by the Commission, pursuant to 52 Pa. Code §5.533(b).

Although Prosecutory Staff has answered similar arguments in the past, we feel compelled to answer again here the merits of

this argument. From the beginning of this litigation, Prosecutory Staff has made it plain that it does not represent the Commission in this matter. See Reply Brief of the Commission Law Bureau Prosecutory Staff, dated May 11, 1992, pp. 15-16. The Prosecutory Staff, in participating in an on-the-record Commission proceeding as a party, is not under the direction of the Commission. Prosecutory Staff is independent and the Commission cannot dictate Prosecutory Staff's litigation position in any way. See 66 Pa. C.S. §§308(b) and 334(c).

Moreover, Prosecutory Staff is not required by any statute to represent the Protestants who are private litigants in this matter. The Protestants, in fact, are not proceeding pro se, but are fully represented by private counsel. Prosecutory Staff's purpose in this proceeding is to represent the Commission staff's positions on the alleged adverse health effects of EMF, the adoption of prudent policy for transmission line siting and the legal interpretation of the Public Utility Code and the Commission's siting regulations consistent with the public interest.

We emphasize the term "public interest." Here it is important to note that the duty of the Commission, and through principles of agency, of each of its employees, is to serve the public interest which is broader than the individual interests of private litigants, be they ratepayers or utilities, or as in this case, property owners. The "public interest" involves the provision of reasonable, safe and reliable utility service to the

public at reasonable rates and requires the balancing of the interests of ratepayers, the utility and citizens of the Commonwealth generally. That there are varying opinions among Commission staff members as to where the public interest lies is reasonable in as large an organization as the Commission. Prosecutory Staff's position on the Commission's approval of the letter of notification for the Woodbourne-Heaton 230 KV line, on EMF's alleged adverse health effects and the other issues involved in this proceeding are our own and consistent with what we believe is the public interest.

Prosecutory Staff also notes that we are but one litigant in this proceeding, and our position is one that the Commission can choose to reject or accept. When Prosecutory Staff or Office of Trial Staff appears before the Commission as a participant in a litigated on-the-record proceeding, we have no greater influence over the decision of the ALJ or the Commission than any other participant. Our positions are presented on the record for the Commission's consideration with opportunity for those participants who wish to disagree to respond. Like any other participant in the proceeding, Prosecutory Staff is prohibited from ex parte communications with the ALJ or the Commissioners on the merits of the case. 66 Pa. C.S. §334(c).

For the above reasons, it should be clear that Prosecutory Staff's on-the-record participation in this proceeding has not caused the Protestants any denial of equal protection or

denial of due process. Therefore, the Protestants' Exception No. 13 should be denied.

- V. Protestants constitutional claim that the actions of the Commission and the ALJ, taken as a whole, represent a taking of life, liberty and property without compensation or due process of law is legally and factually insupportable.

Protestants' Exception No. 11 is a vague assertion of a violation of their constitutional due process rights and reads as follows:

11. The Commission's actions, and those of the ALJ, taken as a whole, represent a taking of life, liberty and property from the protestants without compensation, and without due process of law, in violation of the Pennsylvania and United States Constitutions.

No particular facts are presented regarding which of the Commission's or ALJ's actions caused the alleged deprivation of unidentified constitutional rights. No supporting legal precedent for this proposition is cited by the Protestants. It thus appears that one first must fashion the Protestants' argument in order to answer it. Prosecutory Staff declines to participate in this time-consuming exercise. Accordingly, on its face this exception does not comport with the requirements of Commission regulation 52 Pa. Code §5.333(b) and should be denied.

- VI. It is not a wise use of administrative resources to hold hearings on days when no witnesses are scheduled to appear.

The exception filed by non-party Township of Lower Southampton (Southampton) involves the fact that although hearing time for this remand hearing was scheduled in Philadelphia for June 2, 3, 4 and 7, 1993, hearings were not actually held. Southampton also specifically excepts to ALJ Smolen's conclusion of law on page 89 and the ordering paragraph on page 90 that:

Scientific research does not support a finding or conclusion that there is a conclusive causal connection between exposure to EMFs and adverse human health effects since it is doubtful whether all the evidence that was presented was indeed received by Administrative Law Judge Herbert Smolen for examination.

Southampton's Exceptions, p. 2.

Southampton does not present any evidence to support its speculative statement that because of the cancellation of the scheduled hearings "it is doubtful whether all evidence that was presented was received by Administrative Law Judge." Moreover, Southampton does not allege an injury caused by the lack of the hearing days. Southampton also did not allege that it was prevented from presenting witnesses because of the cancellation of unnecessary hearing days. On its face, the exception does not comply with 52 Pa. Code §5.533(b) and should be denied.

Southampton's exception should also be denied for policy reasons. It is obvious that requiring all parties and the ALJ to stand by for all dates that hearings are scheduled during which no witness for an active party is scheduled to appear is patently

wasteful of scarce administrative and private resources. Because this exception is not supportable by facts and, in fact, is contravened by sound administrative policy, the exception should be denied.

VII. OTS's exception taken to an ordering paragraph does not comport with the requirements for exceptions under 52 Pa. Code §5.533(b).

OTS's sole exception reads as follows:

The ordering paragraphs in this proceeding concerning EMF health effects, in addition to the findings and conclusions, must be strictly limited to the evidence adduced in this record.

OTS Exceptions, p. 5.

OTS specifically excepts to Ordering Paragraph No. 1 at p. 90 on grounds that the paragraph does not include the phrase "based on the evidence presented of record in this proceeding." OTS explains that considering the care with which the ALJ drafted the language in his decision, his failure to include the qualifying phrase was simply inadvertent.

Prosecutory Staff believes that because this exception does not relate to a finding of fact or conclusion of law, it does not comport with 52 Pa. Code §5.533(b) and should be denied. Moreover, as a practical matter, the addition of OTS' suggested qualifying phrase would make the language of the ordering paragraph redundant.

As to specific reasons for limiting the Commission's decision on EMF to this case, OTS claims that this case should not

be the definitive case upon which the Commission makes a decision on EMF's adverse health effects because there are other pending cases in which the EMF health effects issue will be extensively litigated, specifically the DQE/GPU proceeding at Docket No. A-110300,F.051. Although OTS claims that the DQE/GPU case is more in the nature of a generic proceeding on EMF, they do not advocate the DQE/GPU proceeding as the case for making definitive EMF health conclusions. OTS Exceptions, p. 7. Instead, OTS advocates, for due process considerations, the institution of a generic rulemaking proceeding on the issue or that decisions on EMF health effects be made on a case-by-case basis. OTS Exceptions, p. 7.

The Prosecutory Staff cannot agree with either alternative. The original record as supplemented by this summer's remand hearing in this proceeding has examined most, if not all, of the major experimental and epidemiological studies which have been conducted involving electromagnetic radiation. The original determination of ALJ Smolen in his Initial Decision dated August 10, 1992 and in his July 23, 1993 Initial Decision on remand was that this scientific evidence is inconclusive in regard to adverse health effects. Until such time as more and better research is conducted, this basic core of scientific evidence, which does not support a finding of adverse health effects from EMF exposure, will not change. It is a waste of administrative resources to relitigate this issue in each and every Commission proceeding involving electric facilities.

Prosecutory Staff also does not believe that a generic investigation on EMF is a panacea which will definitively resolve this controversial issue or prevent future claims of due process violation based on lack of notice. Each new EMF study reported in the media could be viewed as newly discovered evidence which could require reopening of an already completed generic proceeding or specific transmission line siting application. Moreover, each person moving into Pennsylvania, or just made aware of the existence of the EMF issue and/or of a generic or specific proceeding involving that issue could request, and quite possibly be granted, reopening of the proceeding based on due process deprivation. The proceeding would essentially be open-ended.

Of particular concern is that the institution of a generic EMF proceeding, especially if it has the potential to be open-ended, can result in a de facto moratorium on the construction of transmission lines in the state. Parties protesting pending transmission line applications who would like to see those proceedings delayed as long as possible, would inundate the Commission with requests to stay proceedings on those applications until such a generic investigation is completed. If such requests were granted, the ability of electric utilities to comply with the statutory requirements under 66 Pa. C.S. §1501 to provide reasonable, safe and reliable siting proceedings will be jeopardized during the pendency of such a proceeding.

Finally, a generic investigation may be a waste of the Commission's administrative resources as redundant in light of

comprehensive studies already completed in states like California⁵ and Texas⁶ and in the instant and related site-specific transmission line siting application proceedings here in the Commission. Moreover, under the Energy Policy Act of 1992, Pub. L. No. 102-486, 106 Stat. 2776 (1992), the federal government is required to undertake a five-year study of EMF. The Environmental Protection Agency has already issued a list of the research issues it believes should be addressed in such a study.⁷ A state study, although not preempted, would certainly be overshadowed, if not rendered effectively moot, by the comprehensive federal initiative.

For the above reasons, the Prosecutory Staff believes that the instant OTS exception should be denied and that the Commission should clearly refrain from initiating a generic investigation of EMF health effects as suggested by OTS in supporting statements in their exception.

⁵ Potential Health Effects of Electric and Magnetic Fields from Electric Power Facilities, the California Public Utilities Commission and the California Department of Health Services, September 15, 1989.

⁶ "Health Effects of Exposure to Powerline Frequency Electric and Magnetic Fields," Public Utility Commission of Texas, Austin, Texas, March, 1992.

⁷ "Electric and Magnetic Fields: An EPA Perspective on Research Needs and Priorities for Improving Health Risk Assessment"; Notice of Availability of Report to Public, 58 Fed. Reg. 11, 409 (Feb. 25, 1993).

VIII. Despite the Office of Consumer Advocate's contentions to the contrary, the ALJ did not err in recommending that the Commission's February 9, 1990 order be affirmed.

OCA's sole exception reads as follows:

- A. The ALJ Erred in Recommending that the Commission's February 9, 1990 Order Be Affirmed.

OCA Exceptions on Remand, p. 4.

The OCA contends that because the Protestants were not granted a full hearing on all issues relevant to a siting proceeding the ALJ should not have recommended affirmance of the Commission's February 9, 1990 order approving PECO's letter of notification.

As this exception does not relate to a specific finding of fact or conclusion of law, it should be denied for failure to conform with 52 Pa. Code §3.533(b). If instead this exception is viewed as some special application for relief, Prosecutory Staff believes that it should be denied on its merits.

Prosecutory Staff answers OCA's argument as it has answered the same arguments previously. See Prosecutory Staff Reply Brief, dated May 11, 1992, p. 6 and Reply Brief on Remand of the Commission Law Bureau Prosecutory Staff, dated June 22, 1993, pp. 8-9.

One Commonwealth Court judge, without benefit of a full briefing on the issues, remanded the Protestants' appeal of a Commission order denying reopening of a proceeding in which a final order had been entered. The judge, in her June 14, 1991 order, did not order the Commission to reopen the proceeding for a full

hearing, nor did she vacate the Commission's February 9, 1990 order. The judge instead ordered only that the Commission provide the Protestants with an opportunity for hearing on how they would be adversely affected by the energization of the Woodbourne-Heaton 230 kV line (Order, p. 2). A copy of the order is attached as Appendix A. The Commission's June 14, 1991 order which remanded the case to the OALJ strictly complied with this order. A copy of this order is attached as Appendix B.

Any injury to Protestants' due process rights caused by lack of notice of PECO's original filing has already been cured by the Commission's implementation of the remedy prescribed in the Commonwealth Court's order -- to allow the Protestants to have a hearing to present evidence on how they would be adversely affected by PECO's Woodbourne-Heaton 230 kV line. Moreover, the Protestants now have been given a second opportunity to provide record evidence not only on adverse health effects, but also on undergrounding the line on the right-of-way as an alternative for the line.

Although not specifically within this exception, OCA advocates the position that because the Protestants are adversely affected by the line, they should have been given a hearing on the full array of issues involved in siting applications. OCA Exceptions, pp. 1-2. In light of the fact that OCA's request for a full hearing in this proceeding is in effect a request pursuant to 66 Pa. C.S. 703(g) for rescision and reopening of the Commission's February 9, 1990 order, the Prosecutory Staff urges that standards for the rescision, reopening and hearing of a closed

Commission order as set forth in Kea v. Peoples Natural Gas Co., 60 Pa.PUC 215 (1985), Duick v. Pa. Gas and Water Co., 56 Pa. PUC 553 (1982), and Calantoni v. Pennsylvania Power and Light Co., 62 Pa.PUC 25 (1986) be applied.

In deciding whether to grant a request for rescission and reopening, the Commission should take into account the arguments raised on the reasonableness of fear contained in Prosecutory Staff's exceptions filed September 8, 1992, pp. 1-23⁸, and reconsider its determination that fear of EMF's not yet proven adverse health effects is reasonable (Order entered March 26, 1993, pp. 16 and 18-19). Because the Protestants do not own property in the line's right-of-way, the only manner in which these Protestants have been adversely affected is through their alleged reasonable fear of EMF caused by the uncertainty or inconclusiveness of scientific evidence involving EMF's alleged adverse health effects.

⁸ Prosecutory Staff feels compelled to update the case law on reasonableness of fear and "cancerphobia" in asbestos personal injury cases presented in our September 8, 1992 exceptions. In Marinari v. Asbestos Corp. Ltd., 417 Pa. Super. 440, 612 A.2d 1021 (1992), the Court, en banc, eliminated causes of action for "cancerphobia" -- fear of developing cancer -- in asbestos exposure personal injury actions no matter how reasonable the basis for such fear. Juries must now base their verdicts not upon speculation, but on physically objective evidence of present injury only. See also, Morrison v. Fiberboard Corporation, et al., 1993 Pa. Super. LEXIS 2293; and Higgenbotham v. Fiberboard Corporation, et al., 1993 Pa. Super. LEXIS 2290. Prosecutory Staff believes that if asbestos plaintiffs are precluded from recovery for claims based on speculation, Protestants should not be considered to be adversely affected by the Woodbourne-Heaton 230 kV line because of their fear surrounding the uncertainty of EMF's alleged health effects.

For all of the foregoing reasons, OCA's exception and its accompanying request for rescission of the Commission's February 9, 1990 order, and reopening of the proceeding should be denied.

IX. Prosecutory Staff's reply exceptions to the OTS exceptions filed to ALJ Smolen's September 8, 1992 Initial Decision are herein incorporated by reference.

In its exceptions, OTS incorporated by reference its Exceptions to the Initial Decision of ALJ Smolen, filed September 8, 1992 (OTS Exceptions, dated August 12, 1993, pp. 11-12). OTS explains that it is their understanding that ALJ Smolen's September 8, 1992 Initial Decision will continue to be considered along with ALJ Smolen's recent July 23, 1993 Initial Decision, and wants their exceptions to the earlier decision also considered.

Prosecutory Staff is unsure as to whether incorporation of previous exceptions is permissible under Commission regulations in this instance. However, in answer to OTS' incorporated exceptions, Prosecutory Staff incorporates by reference our previous reply exceptions to the extent that the Prosecutory Staff's reply exceptions, dated September 18, 1992, respond to the OTS exceptions filed to ALJ Smolen's September 18, 1992 Initial Decision.

CONCLUSION

For the foregoing reasons, Law Bureau Prosecutory Staff requests that the above-referenced exceptions be denied.

Respectfully submitted,

Patricia Krise Burket
Assistant Counsel
Law Bureau Prosecutory Staff

Pennsylvania Public Utility Commission
P.O. Box 3265
Harrisburg, PA 17105-3265
(717) 783-2810

DATED: August 23, 1993

APPENDIX A

Opinion of Judge Madeline Palladino
Commonwealth Ct. Docket No. 761 C.D. 1991,
May 24, 1991

ROBERT SMALL, FRANK ENGLISH, :
and DIANE P.S. KOERPER, et al.:
Petitioners :

IN THE COMMONWEALTH COURT
OF PENNSYLVANIA

v. :

PENNSYLVANIA PUBLIC UTILITY :
COMMISSION, :

Respondent, :

No. 761 C.D. 1991
Argued: May 22, 1991

BEFORE: HONORABLE MADALINE PALLADINO, Judge

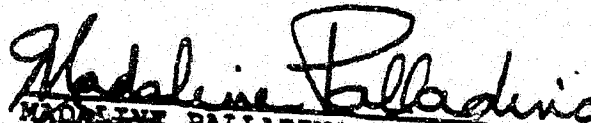
MEMORANDUM OPINION AND ORDER

AND NOW, this 24th day of May 1991, because counsel for Petitioner, during argument on his motion, expressly requested a remand rather than a stay of the construction of the high tension electrical line in question and, additionally requested a hearing before the Public Utility Commission (PUC), this court will consider Petitioner's petition to stay as a petition to remand.

It is clear to the court that the letter notification process of 52 Pa. Code §57.72(d), under which Philadelphia Electric Company proceeded before the PUC, did not contemplate the fact matrix before this court in which an existing right-of-way, previously utilized for rail service, is put to a new use. The notice to entities owning property within the proposed right-of-way provided in 52 Pa. Code §57.72(d) is insufficient, where as here, it is clear that Petitioners, as neighboring property owners, will be affected by the new use of the right of way.¹ Notice to municipalities given pursuant to 52 Pa. Code

¹This court renders no opinion as to whether the landowners will be adversely affected by the reconductoring of the high tension electrical line.

§57.72(c)(11) does not provide the notice and opportunity to be heard to which Petitioners are entitled. This court concludes that Petitioners are entitled to a hearing on the question of whether they will be adversely affected by the reconductoring of the high tension electrical line at issue in this case. Consequently, this court orders this case remanded to the PUC to hold a hearing on this issue within 90 days from the date of this order.


MADRENE PALLADINO, Judge

APPENDIX B

Commission Order entered June 14, 1991
at Docket No. A-110550, F.055 remanding
proceeding on Philadelphia Electric
Company's Letter of Notification on
the Woodbourne-Heaton 230 kV Line
to the OALJ for further hearing

PENNSYLVANIA
PUBLIC UTILITY COMMISSION
Harrisburg, PA 17120

Public Meeting held June 14, 1991

Commissioners Present:

William H. Smith, Chairman
Joseph Rhodes, Jr., Vice-Chairman
Wendell F. Holland, Commissioner
David W. Rolka, Commissioner

Letter of Notification of Philadelphia
Electric Company relative to recon-
structing and rebuilding of the existing
138 kV line to operate as a Woodbourne-
Heaton 230 kV line in Montgomery and
Bucks Counties.

No. A-110550, F.055

O R D E R

BY THE COMMISSION:

On September 14, 1990, Petitioners Robert Small, Frank English and Diane P.S. Koerper, et al., filed at the above docket an Emergency Petition of Non-Noticed Property Owners to Intervene for Reopening and to Suspend Approval (Emergency Petition) of a Commission order entered February 9, 1990. The February 9 order granted Philadelphia Electric Company (PECO) authority to reconstruct an abandoned Conrail 138 kV electric line as the Woodbourne-Heaton 230 kV line. Letter of Notification of Philadelphia Electric Company relative to reconstructing and rebuilding the existing line to operate as a Woodbourne-Heaton 230 kV line in Bucks and Montgomery Counties, A-110550, F.055. On March 8, 1991, the Commission issued an order denying the Emergency Petition.

On April 2, 1991, the Petitioners filed a Petition for Review with Commonwealth Court requesting that the Court 1) set aside the Commission order denying reopening and 2) remand the matter for hearing. On April 16, 1991, the Petitioners also filed with the Commonwealth Court a Petition for Stay Pending Review (Petition for Stay) in which the Petitioners requested the Court stay construction of the Woodbourne-Heaton line. On May 20, 1991, the Petitioners filed a Brief in Support of their Petition for Stay wherein they suggested that any harm to PECO could be avoided by requiring that the Commission institute hearings on an emergency basis, but they did not request remand hearings as relief. On May 21, 1991, the Commission filed an Answer to the Petition for Stay arguing that the Petitioners had not satisfied any of the criteria for a stay under Pa. P.U.C. v. Process Gas Consumers Group, 502 Pa. 545, 467 A.2d 805 (1983). Oral argument on the Petition for Stay was held before Commonwealth Court

Judge Madaline Palladino on May 22, 1991. At oral argument, Petitioners changed their request for relief and asked that the Judge remand the appeal to the Commission for hearing.

On May 24, 1991, the Commonwealth Court Judge issued an order remanding the case to the Commission to hold a hearing on the question of whether the Petitioners will be adversely affected by the reconductoring of the former Conrail line. The order further directed that this hearing be held within 90 days from the date of the remand order. On May 29, 1991, Judge Palladino issued an order supplementing her order of May 24, 1991 to reflect that jurisdiction over this matter was relinquished by Commonwealth Court.

On June 3, 1991, the Petitioners filed with the Commission a Petition for Hearing. In this petition, the Petitioners asked that a hearing be scheduled immediately; disclosed that they have already served discovery requests on PECO; and requested three days of hearings.

In compliance with the Judge's order issued May 24, 1991, the Commission directs that the record at Docket No. A-110550, F.055 be reopened so that the Petitioners can at a hearing introduce testimony and documentary evidence on the sole issue of whether the Petitioners will be adversely affected by the reconductoring of this former Conrail line as PECO's Woodbourne-Heaton 230 kV line. Accordingly, the Commission assigns this matter to Office of Administrative Law Judge and further directs that a hearing be scheduled no later than August 22, 1991 for the determination of the afore-mentioned issue.

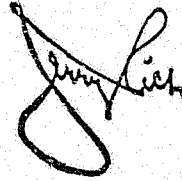
We wish to emphasize that the scope of discovery and hearing on remand is to be limited to the issue as defined in Judge Palladino's order and herein. We also note that the number of days of hearing as well as the disposition of all discovery requests is left to the sound discretion of the Administrative Law Judge assigned to this proceeding; THEREFORE,

IT IS ORDERED:

1. That pursuant to Judge Palladino's May 24, 1991 order as supplemented by order dated May 29, 1991 the record at Docket No. A-110550, F.055, be hereby reopened for hearing and determination of the sole issue of whether the Petitioners will be adversely affected by the reconductoring of this former Conrail transmission line;
2. That consistent with the relief granted in Paragraph No. 1 above, the Petition for Hearing filed June 3, 1991 is granted to the extent consistent with this order;
3. That the Office of Administrative Law Judge expeditiously schedule a hearing for not later than August 22, 1991 for the sole purpose of determining whether the Petitioners will be adversely affected by the reconductoring of the former Conrail transmission line by Philadelphia Electric Company;

4. That a copy of this order is served on all parties of record to the instant Commission transmission line siting proceeding as well as to all parties having participated before the Commonwealth Court in the appeal of our earlier order at this docket.

BY THE COMMISSION,

A handwritten signature in black ink, appearing to read "Jerry Rich", written over a large, stylized, looped flourish.

Jerry Rich
Secretary

(SEAL)

ORDER ADOPTED: June 14, 1991

ORDER ENTERED: June 14, 1991

CERTIFICATE OF SERVICE

I hereby certify that a copy of the Commission Law Bureau
Prosecutory Staff's Reply Exceptions on Remand has been served on
this date on the following persons in the manner indicated below:

By first class mail:

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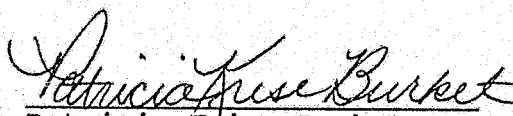
Robert R. Fleck, Esq.
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Honorable Herbert Smolen
Administrative Law Judge
Pa. Public Utility Commission
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DATED: August 23, 1993

ORIGINAL

PHILADELPHIA ELECTRIC COMPANY RECEIVED
LEGAL DEPARTMENT

AUG 23 1993
SECRETARY'S OFFICE
Public Utility Commission

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August 23, 1993

John G. Alford, Secretary
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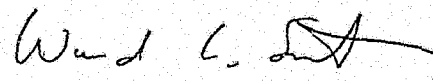
Re: Letter of Notification of Philadelphia Electric Company
Relative to Reconstructing and Rebuilding of the
Existing 138 kV Line to Operate as a Woodbourne-Heaton
230 kV Line in Montgomery and Bucks Counties -
Docket No. A-110550, F.055

Dear Secretary Alford:

Enclosed are an original and nine copies of the Replies of Philadelphia Electric Company to the Exceptions of Protestants, the Office of Consumer Advocate and the Office of Trial Staff. Also enclosed is a Certificate of Mailing, Postal Form 3817, and an extra copy of this letter which I request that you date stamp and return to me in the envelope provided as proof of filing.

Copies of the above document have been served upon the parties as indicated on the Certificate of Service.

Sincerely yours,



Ward L. Smith

WLS/mtj
Enclosures
xc Certificate of Service

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ORIGINAL

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Letter of Notification of	:	
Philadelphia Electric Company	:	
Relative to Reconstructing and	:	Docket No.
Rebuilding of the Existing 138 kV	:	A-110550, F.055
Line to Operate as a Woodbourne-	:	
Heaton 230 kV Line in Montgomery	:	
and Bucks Counties	:	

REPLIES OF

PHILADELPHIA ELECTRIC COMPANY

To The Exceptions Of
Protestants, The Office Of Consumer Advocate
And The Office Of Trial Staff

RECEIVED
AUG 23 1993
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Public Utility Commission

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August 23, 1993

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INTRODUCTION

It has now been more than 3.5 years since the Commission originally approved Philadelphia Electric Company's ("PECO") Woodbourne-Heaton 230 kV transmission line. The line is fully constructed (in an existing utility corridor); it has been tested and placed on emergency standby.¹ Energization of the line, however, has been delayed so that the Commission could hold hearings, beginning over two years ago, on whether certain local residents ("Protestants") would be adversely affected by energizing the line.

From August 1991 to February 1992, extensive hearings were held to explore whether electric and/or magnetic fields ("EMF") associated with the line would adversely affect the health of Protestants and whether energizing the line would cause adverse land use impacts. In its Order of March 26, 1993 (pp. 16, 19), the Commission found that Protestants did not demonstrate that their health would be adversely affected by EMF from the line, and that the only land use effect of energizing the line -- Protestants self-imposed changes in property use -- does not justify delay in energizing the line.

The Commission nonetheless remanded the proceeding for two limited purposes: (1) to take evidence on recent EMF scientific

¹ The Woodbourne-Heaton 230 kV line is 12.8 miles in length. It was constructed within a wider, existing utility corridor that contains an active freight rail line. The line was constructed using existing transmission structures from a de-energized 138 kV line. Use of these existing structures allowed the Woodbourne-Heaton line to be constructed using the "compact delta" design, resulting in the lowest levels of electric and magnetic fields that could be achieved using technologically available designs. See August 19, 1992 Initial Decision, Findings of Fact 1-32.

developments (including two epidemiology studies known as "the Swedish studies"); and (2) to determine, in light of the EMF science, whether right-of-way width standards should exist for the Woodbourne-Heaton line (and, if so, what they should be).
March 26, 1993 Order, pp. 22-23.

Those hearings have been held. In his July 23, 1993 supplemental Initial Decision (p. 89), Administrative Law Judge Smolen found that the scientific evidence presented in this proceeding (including the testimony presented in the '93 remand hearings), does not support a conclusion that there is a causal connection between exposure to EMF and adverse human health effects. (He specifically stated [p. 57] that the Swedish studies do not support a conclusive finding that EMF is a cause of cancer.) Finally, he concluded that the record does not support establishment of numerical edge-of-right-of-way standards for the Woodbourne-Heaton line.

Exceptions have been filed by Protestants,² the Office of Consumer Advocate ("OCA"), and the Office of Trial Staff ("OTS" or "Trial Staff"). Protestants raised a few minor objections to the Administrative Law Judge's (ALJ's) conclusions on the science. Aside from those arguments, no party objected to any of the ALJ's findings on the science or on whether right-of-way

² Protestants filed exceptions through their attorney of record. (Exceptions of Small et al.) Six individual Protestants (Harley, Koerper, Glathorn, English, Dempsey, and Bontempo) and two townships (Middletown and Lower Southampton) also filed exceptions. Since all of these exceptions contain substantially similar arguments, PECO has responded to them collectively as "Protestants'" exceptions.

width standards should exist for the Woodbourne-Heaton line (the only two issues for which this proceeding was remanded).

Instead, the parties' exceptions request the Commission to order yet more hearings in this proceeding or to institute additional, separately-docketed proceedings on generic transmission line siting issues.

The Commission already granted the Protestants an extraordinary remedy when it ordered this proceeding remanded for further hearings. As the Commission stated in its March 26 Order (p. 21):

"We note that the record concerning EMF has been extensively developed, but prior to our disposition of the instant matter we shall direct a limited remand. Our reopening of the record to secure an important piece of information appeals to our sense of fairness. However, we cannot go on forever in hope that the next piece of evidence or study will resolve the EMF question once and for all." (emphasis added.)

PECO agrees: we cannot go on forever with continuous hearings in this proceeding. The public interest requires otherwise. Extensive hearings have been held and there is substantial agreement on the issues. The Commission should adopt the findings of the ALJ and reaffirm its approval of the energization of this line.

I. There Is Substantial Agreement Among The Parties On The Two Remanded Issues

In its Reply Brief on Remand (pp. 2-4), PECO noted that there is substantial agreement among the parties on the only two issues for which this proceeding was remanded.

The exceptions filed by the other parties support PECO's characterization of the positions of the parties. Importantly, no party suggested that EMF right-of-way width standards should exist for the Woodbourne-Heaton line. Moreover, there was essentially no challenge to the substance of the ALJ's finding that no causal connection between exposure to EMF and adverse health effects was demonstrated on this record.³

In short, there is no real disagreement as to what the record evidence says. The issues that the Commission directed the parties to address in this remand have been resolved.

³ Protestants argue that the ALJ should have rejected the conclusions of PECO's experts on the grounds that they were unfamiliar with studies on "bone healing" and "magnetites." Exceptions of Small et al., ¶¶ 3,4. These arguments were fully addressed in PECO's previous filings in this proceeding. See PECO Initial Brief, April 21, 1992, pp. 38-39 (bone healing); PECO Initial Brief on Remand, June 16, 1993, p. 9 (magnetites). PECO demonstrated, inter alia, that the witnesses were familiar with such studies and that those studies have nothing to do with the processes of carcinogenesis. Id.

Protestants also argue that use of the phrase "Based on the record evidence in this proceeding" in the Initial Decision proves that the ALJ knows that the record is incomplete. Exceptions of Small et al., ¶ 2. It should be remembered that this phrase was inserted at the request of OTS, which was concerned that this decision might somehow be misused in future Commission proceedings. PECO respectfully submits that the entire issue of inserting the language "based on the record evidence" is "much ado about nothing." All Commission decisions are based on the record in that case, and any factual determinations are likewise limited to the record. Explicitly stating that this is the case in no way demonstrates that the record is inadequate.

II. The Commission Should Not Order Further Hearings In This Proceeding

Both Protestants and the OCA request further hearings in this proceeding. Protestants request hearings on EMF and need; the OCA requests hearings on need. As described below, PECO believes that the Commission should deny these requests.

A. The Commission Should Not Order Further Hearings On EMF

Protestants request that the Commission order yet more hearings to take further testimony on EMF and health. Exceptions of Small et al., ¶¶ 1,9. In particular, Protestants ask for additional hearings, not to take testimony from any of their own witnesses, but rather to hear testimony from the Trial Staff's proffered witness, Dr. Sam Milham, an epidemiologist from Washington State. There are several reasons the Commission should deny this request.

First, the Commission already fully considered this request and rejected it. The very purpose of Trial Staff's May 11, 1993, Petition for Reconsideration of the Commission's March 26, 1993 Order was to request more time to present Dr. Milham's testimony; Protestants joined in the OTS request; the Commission denied it. See June 10, 1993 Order. Protestants' argument is essentially a request for reconsideration of the Commission's June 10, 1993 Order. Protestants present no new evidence that would justify reversing that Order. Significantly, the OTS itself did not request additional hearings to take testimony from Dr. Milham.⁴

⁴ Unless the Commission "decide[s] that this proceeding is the definitive case for ruling upon EMF health effects." OTS Exceptions, p. 10.

Second, the Protestants have had a full and fair opportunity to present their case. The Commission held 15 days of hearings spanning a two-year period. During those hearings, Protestants presented the testimony of 24 witnesses, including an expert witness on land use (Mr. Ronald Turner) and an expert witness on EMF and health (Dr. Abraham Liboff). Moreover, when evaluating Protestants' requests for additional hearings, it should be recalled that they were given the opportunity to call witnesses in the '93 remand hearings, and chose not to do so.

Finally, contrary to Protestants' assertions that the record in this proceeding is incomplete,⁵ the record in fact provides a broad spectrum of expert scientific opinion on EMF and detailed analysis and discussion of recent scientific evidence, including the Swedish studies. During the '91-'92 hearings, the Protestants presented a science witness -- Dr. Abraham Liboff (Dr. Liboff addressed the EMF epidemiologic research in his testimony). The Consumer Advocate -- which is charged with broadly representing the public interest -- presented science

⁵ Similar to Protestants' assertions of an incomplete record, the OTS argues that the record is lacking because the Commission has only heard the views of "the utility's hired epidemiologist." OTS Exceptions, p. 3. PECO disputes such characterizations of the record. While it is of course true that Dr. Philip Cole, who testified about the EMF epidemiology, was "hired" by PECO, it is also true that Dr. Cole is an independent, internationally-respected epidemiologist. It bears repeating that Dr. Cole is a medical doctor and epidemiologist, formerly a Full Professor of Epidemiology at Harvard and now Chairman of the Department of Epidemiology at University of Alabama -- Birmingham. He has spent more than 25 years researching the epidemiology of cancer and published more than 130 articles in scientific journals reporting the results of his own research. He has advised the National Cancer Institute, the International Agency for Research on Cancer and the United States House of Representatives on matters of cancer epidemiology. He has received honors and awards for his research in the United States, Canada, and France. PECO Rebuttal Statement No. 2, pp. 1-5.

witnesses in both the '91-'92 hearings and in the '93 remand hearings. (The OCA's witnesses Dr. Rosenbaum and Mr. Janes addressed the EMF epidemiologic research in both hearings -- including the Swedish studies in the '93 remand hearings.)

PECO recognizes that Protestants now claim that these witnesses are not qualified to discuss the epidemiologic research and that Protestants therefore need additional hearings so that the Trial Staff can present testimony from Dr. Milham. Exceptions of Small et al., p. 2. PECO submits, however, that Protestants' previous representations to the Commission should effectively foreclose this argument. In the '91-92 hearings, Protestants argued that Dr. Liboff was uniquely qualified to render an expert opinion on the epidemiologic research. Protestants' Reply Brief, May 12, 1992, pp. 11-16. Similarly, when the OCA's witness Dr. Rosenbaum addressed the epidemiologic studies in the '91-'92 hearings, Protestants relied upon his testimony in their arguments. Id. They should not be allowed to argue now that only Sam Milham is qualified to address the epidemiologic research and that they are therefore entitled to more hearings to permit the Trial Staff to present his testimony.

Moreover, the record contains numerous references to the conclusions of independent scientific review panels on the epidemiologic research, including their views on the Swedish studies. For example, the record contains the conclusions of the Oak Ridge Associated Universities -- a consortium of 62

universities that provides technical assistance to the White House's Committee on Interagency Radiation Research and Policy Coordination -- and of Great Britain's National Radiological Protection Board, which is chaired by the eminent epidemiologist Sir Richard Doll. Both of these bodies reviewed the Swedish studies and concluded that those studies do not support a conclusion that EMF is a cause of cancer. See Finding of Fact No. 33. ⁶

In sum, the record in this proceeding contains the opinions of expert witnesses sponsored by the Protestants, the Consumer Advocate, and PECO, as well as the conclusions of independent scientific review panels. In particular, the supplemental Initial Decision contains detailed information from and discussion of the Swedish studies. See e.g. Findings of Fact 30-36. The parties have had two distinct opportunities to call witnesses and present their positions on EMF and health. No further hearings on EMF are needed, nor should they be granted.

B. The Commission Should Not Hold Further Hearings On Need
Protestants (¶ 12) and the OCA (pp. 1-2) also request that the Commission hold additional hearings to somehow "balance" need for the line and possible alternative routes for the line against the alleged adverse effects of the line. The OCA argues that the

⁶ With regard to whether the Commission has heard the consensus of the scientific community, PECO would note that Protestants appear to be arguing that Dr. Milham is the only epidemiologist who would testify that EMF has been shown to be a cause of cancer.

Commission should not reapprove energization of the line absent such hearings. (pp. 3-4).

This is not the first time Protestants and the OCA have made this request. In fact, this precise request was placed before the Commission prior to the '93 remand hearings, see, e.g., OCA Reply Exceptions, September 18, 1992, pp. 4-7, and, although the Commission remanded the proceeding for further hearings on EMF, it did not accede to the request for hearings on need. Protestants and the OCA have presented no new arguments that would justify a reversal of that decision. PECO therefore urges the Commission to affirm its previous decisions rejecting this argument.

Moreover, PECO notes that the Commission routinely applies its regulatory expertise and decides that transmission lines are needed, based solely on the information contained in a Letter of Notification -- without an evidentiary hearing on that issue. In fact, the Commission has approved several Letters of Notification, without hearings on need, during the pendency of this proceeding. See, e.g., Penelec Letter of Notification at Docket A-110400, F. 0020 (approved June 3, 1993); West Penn Letter of Notification at Docket A-111250, F. 0048 (approved June 24, 1993); Pennsylvania Power & Light Letter of Notification at Docket A-110500, F. 0179 (approved June 24, 1993). Moreover, the Commission's Orders in this proceeding have made it clear that they fully evaluated the information on need presented by PECO for the Woodbourne-Heaton line before it reached any

determination as to need for the line. See, e.g., February 3, 1990 Order, pp. 1-2.

PECO also submits that the Commission implicitly conducted the requested "balancing" between adverse effect and need in its March 26 Order (pp. 16, 19) when it determined that (1) Protestants did not demonstrate that their health would be adversely affected by EMF from the line, and (2) that the only land use effect of energizing the line -- Protestants self-imposed changes in property use -- warrants no delay in energizing the line. The Commission thus already determined at the end of the '91-'92 hearings that the non-health adverse effect shown by Protestants (self-imposed changes in property use) does not justify reconsideration of the need for this line.

The Protestants did not prove any additional adverse effects in the '93 remand hearings. With regard to "balancing" adverse effects against need, the situation is thus precisely as it was when the Commission issued its March 26, 1993 Order. PECO thus requests that the Commission explicitly reaffirm that the adverse effects demonstrated by Protestants, on balance, do not justify any further relief, either in the form of additional hearings on need or in the form of further delay in energizing the line.

III. The Parties' Requests That The Commission Institute Separately Docketed Proceedings Are Outside The Scope Of This Remand And Unrelated To Whether The Woodbourne-Heaton Line Should Be Energized

The Office of Consumer Advocate and the Office of Trial Staff also request that the Commission institute a separately-docketed proceeding related to statewide regulatory policy on EMF

(a generic proceeding) and to the Commission's Letter of Notification Regulations.

These requests for separately-docketed proceedings are clearly outside the limited scope of this remand. The Commission stated in its March 26 Order (p. 23) that no issues other than the two specified issues were to be considered in this remand.⁷

Furthermore, no evidence was submitted suggesting that energization of the Woodbourne-Heaton should be delayed pending such a proceeding, if the Commission should decide to initiate any such proceeding.

PECO has taken the position throughout these proceedings that, if the Commission does initiate a statewide, generic rulemaking on EMF, PECO will be an active participant in that proceeding -- but that the Commission should continue to decide transmission line siting cases, including this one, on a case-by-case basis until such time as any generic policy is in place. See, e.g., PECO Reply Brief on Remand, pp. 5-7. Law Bureau and PP&L have previously stated their views that any generic proceeding should not cause delay in energizing the Woodbourne-Heaton line. See Law Bureau Reply Brief on Remand, pp. 14-16; PP&L Main Brief on Remand, pp. 15-16. In its exceptions (pp. 7-8), the Trial Staff agreed with the position that cases should

⁷ Protestants also made several proposals that are outside the scope of this proceeding: that PECO should purchase Protestants homes (§ 5); and that PECO be required to give legal fees and funding to Protestants (§ 7, 8). PECO urges the Commission to refer to pages 7-12 of its Reply Brief on Remand, June 23, 1993, in which it demonstrated that these proposals are not only outside the scope of the remand, but beyond the jurisdiction of the Commission.

proceed pending any such generic rulemaking: ". . . in view of due process considerations, the Commission should either institute a generic rulemaking proceeding on this issue or decide EMF health effects issues on a case-by-case basis."

PECO thus submits that, since the parties are in substantial agreement that individual proceedings should be decided on their own merits based on their records and (as the Commission noted in its March 26 Order [p. 21]), the record on EMF in this proceeding has been "extensively developed," the Commission should approve energization of the Woodbourne-Heaton line at this time regardless of whether it initiates a generic rulemaking on EMF.

CONCLUSION

For the reasons stated above, the Commission should adopt Administrative Law Judge Smolen's Recommended Decision with regard to the two issues on remand; reject the requests of the Protestants and the OCA for additional hearings; and approve energization of the Woodbourne-Heaton line regardless of whether the Commission institutes a separately docketed rulemaking.

Respectfully submitted,

Ward L. Smith

Counsel for Philadelphia Electric Company

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August 23, 1993

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a true copy of the foregoing document(s) upon the following individuals and in the manner indicated below in accordance with the requirements of 52 Pa. Code § 1.54:

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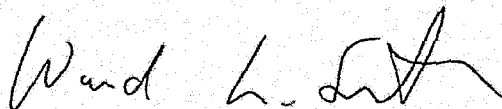
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Dated: August 23, 1993

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August 23, 1993

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Utility Commission
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DOCKETED
AUG 27 1993

Faxed to 1-717-787-0974

Re: Letter Notification of PECO
relative to Reconducting and Rebuilding
of the Existing 128 kV line to operate
as the Woodbourne-Heaton 230kV Line

A-110550F0055

Dear Mr. Alford:

Please find enclosed the Certificate of Mailing which was
erroneously not included in our original filing. As required by the
Initial Decision, we did file our Exceptions in a timely manner,
although by oversight we failed to enclose the certificate.

Kindly reinstate our Exceptions so they may be considered by the
Commission.

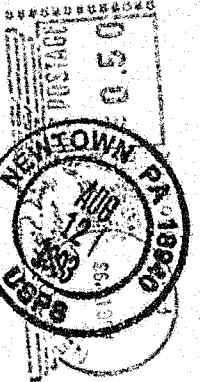
Sincerely,

Catherine Anne Porter
CAP/mmi

Enclosure

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U.S. POSTAL SERVICE		CERTIFICATE OF MAILING	
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Catherine Anne Porter Esq			
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Newtown Pa 18940-0866			
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Commonwealth of Pennsylvania			
Pennsylvania Public Utility Commission			
P.O. Box 3265			
Harrisburg Pa. 17105-3265			



ORIGINAL

BEFORE THE PENNSYLVANIA UTILITY COMMISSION

RECEIVED
AUG 12 1993

Letter Notification of Philadelphia :
Electric Company Relative to
Reconductoring and Rebuilding of the :
Existing 128 kV Line to Operate as
the Woodbourne-Heaton 230 kV Line :

SECRETARY'S OFFICE
Public Utility Commission
A-110550F055

RECEIVED

AUG 16 1993

EXCEPTIONS OF THE BOROUGH OF LANGHORNE

The Borough of Langhorne, by Catherine Anne Porter, Esquire, its Solicitor, takes exception to the initial decision of the Honorable Herbert Smolen, Administrative Law Judge, dated July 15, 1993, in this matter pursuant to 52 Pa. Code 5.33 as follows:

1. Hearings were only held in Philadelphia on May 27, 28 and June 1, 1993 despite the fact that the notices sent to this municipality by the Pennsylvania Public Utility Commission stated that hearings would be held on May 27-28, June 1-4 and June 7, 1993. The public, and specifically the residents of the Borough of Langhorne, were prevented from presenting testimony and evidence on these dates. The Borough of Langhorne takes exception to the failure to hold all publicized hearings.

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AUG 25 1993

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2. The Pennsylvania Public Utility Commission previously remanded this matter to Judge Smolen for the purpose of receiving testimony on the health effects of magnetic fields. The failure to hold hearings on the publicized dates prevented the public, and specifically Langhorne Borough residents, from presenting testimony and evidence on these issues. The Borough of Langhorne takes exception to the failure to hold all publicized hearings, thereby preventing the admission of testimony and evidence on these issues.

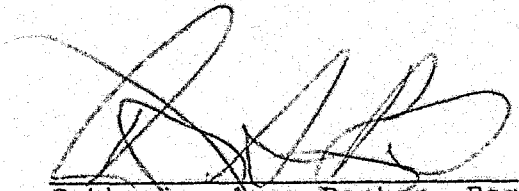
3. Judge Smolen held that the current scientific research does not support a finding that there is a conclusive causal connection between EMF exposure and adverse human health effects. Sufficient evidence was presented to support a finding that there is a conclusive causal connection between EMF exposure and adverse human health effects. The Borough of Langhorne takes exception to the finding that insufficient and/or inconclusive evidence was presented to support a finding that there is a conclusive causal connection between exposure to EMF's and adverse human health effects.

4. Judge Smolen prevented the presentation of various witnesses and would not grant additional time to present witnesses. This refusal prevented evidence concerning the conclusive causal connection between exposure to EMF's and adverse human health effects from being presented or considered. The Borough of Langhorne takes exception to Judge Smolen's refusal to permit the presentation of testimony or the granting of time to present said testimony and the resulting finding that insufficient and/or inconclusive evidence was presented to support a finding that there is a conclusive causal connection between exposure to EMF's and adverse human health effects.

5. The Pennsylvania Public Utility Commission was created to protect the public and ensure that monopolies operate in a manner which benefits its customers and does not take undue advantage of its position in the market. Accordingly, it recommended a course of prudent avoidance of potential problems. Where there is credible evidence that a connection may exist between EMF exposure and adverse health effects, the prudent and proper course of action is to prevent the possibility of harm until convincing and overwhelming evidence is presented that there is no connection. Judge Smolen recognized that research is on-going and that this issue may not be resolved for all time. The Borough of Langhorne takes exception to the direction taken by Judge Smolen and believes that a prudent course of action is to prohibit the reconductoring of the line until conclusive evidence is presented that EMF exposure does not cause adverse human health effects.

WHEREFORE, the Borough of Langhorne respectfully requests that the initial decision of the Administrative Law Judge Herbert Smolen does not become final.

Respectfully submitted,



Catherine Anne Porter, Esquire
Solicitor for Langhorne Borough

CERTIFICATE OF SERVICE

I hereby certify that I am serving, this day, the foregoing document(s), either personally, by FAX and/or by first class mail upon the persons listed below:

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Montgomery Plaza
Suite 207, Airy & Swede Streets
Norristown, PA 19404

Arthur A. Davis, Secretary
Pa. Dept. of Environmental
Resources
Bureau of Environmental Planning
16th Fl., Market St. State
Office Building
444 Market Street
Harrisburg, PA 17120

Kathy Horwalt, Council President
Borough of Langhorne
114 East Maple Avenue
Langhorne, PA 19047

Elsie Knight, Chairperson
Borough of Langhorne
Planning Commission
151 West Maple Avenue
Langhorne, PA 19047

Howard Yerusalim, P.E., Secretary
Pa. Department of Transportation
Room 1200
Transportation & Safety Building
Harrisburg, PA 17120

Vivian Piasecki, Chairman
Pa. Historical & Museum Commission
Post Office Box 1026
Harrisburg, PA 17120

Clark Weitz, Chairman
Middletown Twp. Planning Commission
2140 Trenton Road
Levittown, PA 19056

W. Edwin Ogden, Esquire
Jeffrey A. Franklin, Esquire
Ryan, Russell & McConaghy
530 Penn Square Center
Post Office Box 8281
Reading, PA 19603-8281

John Hocker, Leasing Rep.
Dept. of General Services
Bureau of Real Estate
Room 503, North Office Building
Harrisburg, PA 17105

D. Bruce Townsend, Twp. Manager
Northampton Township
55 Township Road
Richboro, PA 18954

Walter C. Evans, Township Planner
Northampton Township
55 Township Road
Richboro, PA 18954

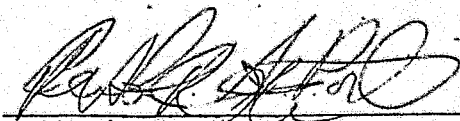
Jerry S. Goldman, Chairman
Upper Southampton Township
Planning Commission
939 Street Road
Southampton, PA 18966

John S. Burke, Twp. Manager
Middletown Township
Planning Commission
2140 Trenton Road
Levittown, PA 19056

Alison D. White, Twp. Manager
Lower Moreland Township
640 Red Lion Road
Huntingdon Valley, PA 19066

William & Barbara Harley
1660 Bonnie Brae Drive
Huntingdon Valley, PA 19006-1304

Robert J. Sugarman, Esquire
Sugarman & Associates
7th Fl., Robert Morris Building
100 North 17th Street
Philadelphia, PA 19103



Catherine Porter Esquire
Solicitor, Langhorne Borough

Dated: August 15, 1993

A-110550F055

ORIGINAL

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA PUBLIC UTILITY COMMISSION
P. O. BOX 3265, HARRISBURG, Pa. 17120

August 23, 1993

IN REPLY PLEASE
REFER TO OUR FILE

John G. Alford, Secretary
Pa. Public Utility Commission
Post Office Box 3265
Harrisburg, PA 17105-3265

RECEIVED
AUG 23 1993
OFFICE OF TRIAL STAFF
DIVISION

In re: Letter Notification of Philadelphia Electric
Company Relative to Reconductoring and
Rebuilding of the Existing 138 kV Line to
Operate as the Woodbourne-Heaton 230 kV Line
Docket No. A-110550F055

Dear Secretary Alford:

Please be advised that the Office of Trial Staff (OTS) of
the Pennsylvania Public Utility Commission will not be filing Reply
Exceptions to the Exceptions of parties filed in the above-captioned
proceeding. An original and nine (9) copies are enclosed.

Very truly yours,

Kandace F. Melillo

Kandace F. Melillo
Prosecutor
Office of Trial Staff

KFM:gdp

cc: Honorable Herbert S. Smolen, ALJ
Parties of Record

DOCKETED
AUG 27 1993

**DOCUMENT
FOLDER**

CERTIFICATE OF SERVICE

I hereby certify that I am serving the foregoing document(s), either personally, by Facsimile, and/or by Overnight/Express or First Class mail, upon the persons listed below:

Honorable Herbert S. Smolen
Administrative Law Judge
Pa. Public Utility Commission
1302 State Office Building
1400 West Spring Garden Street
Philadelphia, PA 19130

Paul R. Bonney, Esquire
Ward L. Smith, Esquire
Philadelphia Electric Company
2301 Market Street
Post Office Box 8699
Philadelphia, PA 19101

Tom Watson, Esquire
Crowell & Moring
1001 Pennsylvania Avenue, N.W.
Washington, D.C. 20004

Patricia Krise Burket, Esquire
Law Bureau - Pa. P.U.C.
G-28 North Office Building
Post Office Box 3265
Harrisburg, PA 17105

Tanya J. McCloskey, Esquire
Office of Consumer Advocate
1425 Strawberry Square
Harrisburg, PA 17120

Jesse Dillon, Esquire
Pennsylvania Power & Light Company
Two North Ninth Street
Allentown, PA 18101

Robert J. Sugarman, Esquire
Sugarman & Associates
7th Floor - Robert Morris Building
100 North 17th Street
Philadelphia, PA 19103

Kandace F. Melillo
Kandace F. Melillo

Prosecutor - Office of Trial Staff
Pennsylvania Public Utility Commission

Dated: August 23, 1993
Woodbourne/Heaton, A-110550F055

RECEIVED
AUG 23 1993
SECRETARY'S OFFICE
Public Utility Commission



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

August 24, 1993

IN REPLY PLEASE
REFER TO OUR FILE

A-110550F0055

EDWARD F KOERPER JR ESQUIRE
300 CASEY CIRCLE
HUNTINGDON VALLEY PA 19006

DOCKETED

AUG 31 1993

Letter of Notification of Philadelphia Electric Company

Dear Mr. Casey:

Receipt is acknowledged of a fax copy of exceptions of Frank English and Dorothy A. English in the above entitled proceeding.

This will advise you that the Commission does not accept fax copies as officially filed copies. It will be necessary for you to furnish the Commission with the original exception.

As soon as the original exception is received, same will receive the Commission's attention.

Very truly yours,

for John G. Alford
Secretary

cc: Office of ALJ
Office of Special Assistants

JEP

DOCUMENT
FOLDER

~~ORIGINAL~~

RECEIVED: 1 408 347 355

P. O. Box 508
Feasterville, PA 19053

August 9, 1993

POOR ORIGINAL

RECEIVED

AUG 10 1993

SECRETARY'S OFFICE
Public Utility Commission

Secretary of the Commission
Public Utility Commission
North Office Building
P. O. Box 3265
Harrisburg, PA 17105-3265

Reference: Letter of Notification of Philadelphia
Electric Company to Reconductor and Rebuild
the 128kV Line to 230kV Woodbourne-Heaton
Line: Docket Number A-110550F055

Dear Secretary of the Commission:

We take exception to Judge Herbert Smolen's decision of
July 23, 1993, for the reasons itemized below.

First, the PUC did not hear all of the testimony. At our
attorney's direction, we personally identified and
qualified epidemiologists who might serve as witnesses on
the consumers' behalf. We discovered that most eminent
epidemiologists were conducting research funded by EPRU.
No matter what these scientists might believe privately and
individually, they felt strongly that testifying for
consumers would jeopardize current or future funding.
Ultimately, there was only one epidemiologist, Dr. Samuel
Milham, who would testify on our behalf. However, when
speaking with Dr. Milham in May of this year, he stated
that he was already under contract to the PUC's Office
of the Trial Staff to represent consumers. Citizens were
not advised until the first day of the hearings, May 27,
that the OTS was unable to process their own contracts in
time. Dr. Milham was therefore unable to appear on such short
notice as an agent for us. Dr. Milham is adamant in his
views on the effects of EMPs and advised us that he was
prepared to testify that EMP emissions above one milligauss
are harmful.

Second, it is grossly unfair for any entity, the PUC or a
utility, to impose financial loss on citizens through the
imposition of a new high voltage line that has a measurable
impact on property value. Citizens have no opportunity to
regain a loss where a utility can recover its construction
costs through tax exemptions and rate adjustments. These
rate adjustments will be paid by the people who

POOR ORIGINAL

suffered the loss. We tried to sell our home for two years. Based on an appraisal value of \$200,000 in 1990, we set the initial selling price at \$229,000. During the course of the selling process, buyers were limited to those who would consider living next to a high-voltage line. The selling price first dropped to 199,000, then 189,000, and finally 175,000. We eventually sold for 165,000 to rid ourselves of our fears and concerns for our health. At one point, we received a letter from a realtor who stated that although his customers "liked the house very much and would have considered purchasing it, the fact that high tension...wires are being installed by PECO prohibit (them) from doing so. The probability of depreciation in the property is too much of a risk" for his customers to take.

Third, while there is not yet conclusive evidence to connect EMFs and cancer, it is recognized that EMFs cause biological changes in human cells. According to Dr. Robert O. Becker, a pioneering researcher in the effects of EMFs, "exposure to electromagnetic fields speeds up the process of the body's cell division. Any time you speed up such a process, you increase the chances of mistake being made". Dr. Becker goes on to say that "studies have shown that cancer cells are more sensitive to man-made electromagnetic fields than normal cells. Malignancies most likely to be promoted by exposure to man-made fields are malignancies of cells that are in division. In a fetus, all of the cells are dividing. In a child, most of the cells are dividing. In adults, the only cells that are dividing are those that need to be replaced because of wear and tear. These include tissues of skin, blood, lymph and the lining of the gut." We have received no assurances from any of the testimony to date, that should we choose to live next to a high-voltage line, that our bodies would continue to produce the same quality and content of blood, skin, etc., in the years to come.

We strongly urge the PUC to extend these hearings and allow consumer-side evidence into any decision. We as private citizens of modest means also strongly encourage the PUC relieve our financial burden in the procurement of expert witnesses on our behalf. Until that time, citizens cannot possibly compete with the awesome resources of a utility.

Sincerely,

Frank English
Dorothy A. English
 Frank English
 Dorothy A. English

FAX COVER SHEET

POOR ORIGINAL

TO: ED KOERPER

FAX #: 215-887-9198

COMPANY: _____

DATE/TIME: 8/9/93

NUMBER OF PAGES: 3

(INCLUDING THIS COVER PAGE)

FROM: LOTTIE ENGLISH

OF: _____

FAX #: ~~215~~-405-347-2593

Ed - I spoke CAROL THIS MORNING.
HERE IS ANOTHER LETTER TO ADD
TO THE EXCEPTS. THANKS!

LOTTIE

CERTIFICATE OF SERVICE

I, Edward F. Koerper, Jr., certify that I have mailed a copy of (5) five (English, Koerper, Glathorn, Dempsey and Bontempo) Exceptions to the Initial Decision of the Honorable Herbert Smolen, Administrative Law Judge to the following counsel by first class mail, postage pre-paid, on this date:

Paul R. Bonney, Esq.
Assistant General Counsel
Philadelphia Electric Company
2301 Market Street
Philadelphia, PA 19101

Tanya J. McCloskey, Esq.
Assistant Consumer Advocate
Office of Consumer Advocate
1425 Strawberry Square
Harrisburg, PA 17120

Charles Hoffman, Esq.
PA PUC
Office of Trial Staff
P.O. Box 3265
Harrisburg, PA 17120

Patricia Krise Burket, Esq.
PA PUC
G-28, North Office Bldg.
P.O. Box 3265
Harrisburg, PA 17120


Jesse Dillon, Esq.
Penna Power & Light Co.
Two North Ninth Street
Allentown, PA 18101

Ward Smith, Esq.
Crowell & Moring
1001 Penna Ave., N.W.
Washington, D.C. 20004

Robert J. Sugarman, Esq.*
Sugarman & Associates
Robert Morris Bldg.
17th Floor
100 N. 17th Street
Philadelphia, PA 19103

Hon. Herbert S. Smolen
Administrative Law Judge
PA PUC
1302 Phila. State Offices
Broad & Spring Garden St.
Philadelphia, PA 19103

*Via Telecopier



Edward F. Koerper, Jr.
300 Casey Circle
Huntingdon Valley, PA 19006
(215) 322-9143

Dated: 8-11-93

COMMONWEALTH OF PENNSYLVANIA



OFFICE OF CONSUMER ADVOCATE
1425 Strawberry Square
Harrisburg, Pennsylvania 17120

IRWIN A. POPOWSKY
Consumer Advocate

(717) 783-5048

August 25, 1993

John G. Alford, Secretary
PA Public Utility Commission
Room G-23, North Office Bldg.
Harrisburg, PA 17120

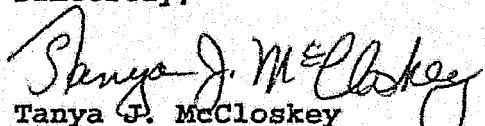
Re: Letter of Notification of
Philadelphia Electric Company
Relative to Reconductoring and
Rebuilding of the Existing 138-KV
Line to Operate as the Woodbourne-
Heaton 230KV Line
Docket No. A-110550 F055

Dear Secretary Alford:

Please be advised that the Office of Consumer Advocate will not be filing Reply Exceptions on Remand in the above-captioned proceeding.

This letter has have been served upon all parties of record as shown on the attached Certificate of Service.

Sincerely,


Tanya J. McCloskey
Assistant Consumer Advocate

DOCKETED
AUG 30 1993

Enclosures
cc: All parties of record

**DOCUMENT
FOLDER**

CERTIFICATE OF SERVICE

Re: Letter of Notification of Philadelphia Electric Company
Relative to Reconductoring and Rebuilding of the Existing
138-KV Line to Operate as the Woodbourne-Heaton 230KV Line
Docket No. A-110550F055

I hereby certify that I have this day served a true copy
of the foregoing document, letter in lieu of Reply Exceptions of
the Office of Consumer Advocate on Remand, upon parties of record
in this proceeding in accordance with the requirements of 52 Pa.
Code § 1.54 (relating to service by a participant), in the manner
and upon the persons listed below:

Dated this 25th day of August, 1993.

RECEIVED

SERVICE IN PERSON

Charles F. Hoffman, Esq.
Kandace F. Melillo, Esq.
Office of Trial Staff
PA Public Utility Commission
P. O. Box 3265
Harrisburg, PA 17120

Patricia Krise Burket, Esq.
Law Bureau
PA Public Utility Commission
Room G-28, North Office Bldg.
Harrisburg, PA 17120

AUG 25 1993

SECRET

SERVICE BY FIRST CLASS MAIL

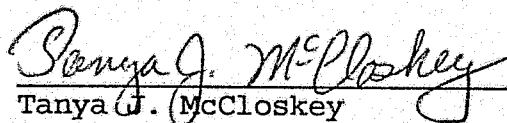
Paul R. Bonney, Esq.
Ward L. Smith, Esq.
Philadelphia Electric Company
2301 Market Street, Box 8699
Philadelphia, PA 19101

Robert J. Sugarman, Esq.
Sugarman & Associates
7th Floor
100 North 17th Street
Robert Morris Building
Philadelphia, PA 19103

Jesse Dillon, Esq.
Pennsylvania Power & Light Co.
2 North Ninth Street
Allentown, PA 18101

Tom Watson, Esq.
Crowell & Moring
1001 Pennsylvania Ave., N.W.
Washington, D.C. 20004

Honorable Herbert Smolen
Administrative Law Judge
PA Public Utility Commission
1302 Philadelphia State Office
Bldg.
1400 West Spring Garden Street
Philadelphia, PA 19130


Tanya J. McCloskey
Assistant Consumer Advocate

Counsel for
Office of Consumer Advocate
1425 Strawberry Square
Harrisburg, PA 17120
(717) 783-50481



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

August 27, 1993

IN REPLY PLEASE
REFER TO OUR FILE

A-110550F0055

CATHERINE ANNE PORTER ESQUIRE
POST OFFICE BOX 1175
NEWTOWN PA 18940 0866

871

DOCUMENT
FOLDER

DOCKETED
AUG 27 1993

Letter Notification of Philadelphia Electric Company

Dear Ms. Porter:

This will advise you that the Commission has rescinded our letter of August 16, 1993 advising that your exceptions were not timely filed, since the certificate of mailing was not included in the original filing.

Very truly yours,

for John G. Alford
Secretary

cc: All Parties of Record
Office of Administrative Law Judge
Office of Trial Staff
Chairman Rolka
Commissioner Rhodes
Commissioner Hanger
Commissioner Quain
Commissioner Crutchfield

JEP

ORIGINAL

P. O. Box 508
Feasterville, PA 19053

September 6, 1993

Secretary of the Commission
Public Utility Commission
North Office Building
P. O. Box 3265
Harrisburg, PA 17105-3265

RECEIVED
SEP 16 1993

BTL

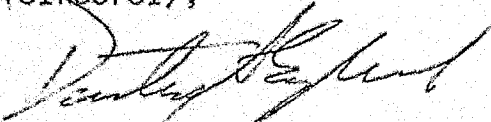
SECRETARY'S OFFICE
Public Utility Commission

Reference: Letter of Notification of Philadelphia
Electric Company to Reconductor and Rebuild
the 128kV Line to 230kV Woodbourne-Heaton
Line: Docket Number A-110550F055

Dear Secretary of the Commission:

Enclosed is an original and nine copies of my letter of
exception to the above referenced matter. My apologies for
sending a FAX. Thank you for allowing me to send in the
copies as you requested at this late date.

Sincerely,



Dorothy A. English

DOCUMENT
FOLDER

ORIGINAL

DOCKETED

P. O. Box 508
Feasterville, PA 19053 SEP 15 1993

August 9, 1993

Secretary of the Commission
Public Utility Commission
North Office Building
P. O. Box 3265
Harrisburg, PA 17105-3265

RECEIVED
SEP 14 1993

SECRETARY'S OFFICE
Public Utility Commission

Reference: Letter of Notification of Philadelphia Electric Company to Reconductor and Rebuild the 128kV Line to 230kV Woodbourne-Heaton Line: Docket Number A-110550F055

Dear Secretary of the Commission:

We take exception to Judge Herbert Smolen's decision of July 23, 1993, for the reasons itemized below.

First, the PUC did not hear all of the testimony. At our attorney's direction, we personally identified and qualified epidemiologists who might serve as witnesses on the consumers' behalf. We discovered that most eminent epidemiologists were conducting research funded by EPRI. No matter what these scientists might believe privately and individually, they felt strongly that testifying for consumers would jeopardize current or future funding. Ultimately, there was only one epidemiologist, Dr. Samuel Milham, who would testify on our behalf. However, when speaking with Dr. Milham in May of this year, he stated that he was already under oral contract to the PUC's Office of the Trial Staff to represent consumers. Citizens were not advised until the first day of the hearings, May 27, that the OTS was unable to process their own contracts in time. Dr. Milham was then unable to appear on such short notice as an agent for us. Dr. Milham is adamant in his views on the effects of EMFs and advised us that he was prepared to testify that EMF emissions above one millgauss are harmful.

Second, it is grossly unfair for any entity, the PUC or a utility, to impose financial loss on citizens through the imposition of a new high voltage line that has a measurable impact on property value. Citizens have no opportunity to regain a loss where a utility can recover its construction costs through tax exemptions and rate adjustments. These rate adjustments will be paid by the very people who

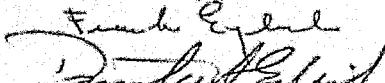

DOCUMENT
FOLDER

suffered the loss. We tried to sell our home for two years. Based on an appraisal value of \$200,000 in 1990, we set the initial selling price at \$229,000. During the course of the selling process, buyers were limited to those who would consider living next to a high-voltage line. The selling price first dropped to 199,000, then 189,000, and finally 175,000. We eventually sold for 165,000 to rid ourselves of our fears and concerns for our health. At one point, we received a letter from a realtor who stated that although his customers "liked the house very much and would have considered purchasing it, the fact that high tension...wires are being installed by PECO prohibit (them) from doing so. The probability of depreciation in the property is too much of a risk" for his customers to take.

Third, while there is not yet conclusive evidence to connect EMFs and cancer, it is recognized that EMFs cause biological changes in human cells. According to Dr. Robert O. Becker, a pioneering researcher in the effects of EMFs, "exposure to electromagnetic fields speeds up the process of the body's cell division. Any time you speed up such a process, you increase the chances of mistake being made". Dr. Becker goes on to say that "studies have shown that cancer cells are more sensitive to man-made electromagnetic fields than normal cells. Malignancies most likely to be promoted by exposure to man-made fields are malignancies of cells that are in division. In a fetus, all of the cells are dividing. In a child, most of the cells are dividing. In adults, the only cells that are dividing are those that need to be replaced because of wear and tear. These include tissues of skin, blood, lymph and the lining of the gut." We have received no assurances from any of the testimony to date, that should we choose to live next to a high-voltage line, that our bodies would continue to produce the same quality and content of blood, skin, etc., in the years to come.

We strongly urge the PUC to extend these hearings and allow consumer-side evidence into any decision. We as private citizens of modest means also strongly encourage the PUC relieve our financial burden in the procurement of expert witnesses on our behalf. Until that time, citizens cannot possibly compete with the awesome resources of a utility.

Sincerely,



Frank English
Dorothy A. English

ORIGINAL

GOULD & WILKIE

(FOUNDED IN 1892)

COUNSELLORS AT LAW

ONE CHASE MANHATTAN PLAZA

NEW YORK, N.Y. 10005-1401

212-344-5680

THEODORE J. CARLSON
WALTER A. BOSSERT, JR.
WILLIAM P. REILLY
GEORGE J. WALSH III
JOHN E. GOULD
ROBERT J. GLASSER, P.C.
PETER V. K. FUNK, JR.
ROBERT E. PEDERSEN
EDWARD V. ATNALLY
—
DOREEN M. SCHRAUFL
ADMINISTRATOR

ANDREW W. BANK
SALLY A. MUIR
ERIC O. GOSTELLO
MICHAEL R. MANLEY

—
CABLE ADDRESS
GOLDKEY

—
TELECOPIER
212-809-6890

October 8, 1993

RECEIVED
OCT 15 1993

Ms. Janet Patrick
Pennsylvania PUC
P.O. Box 3265
Harrisburg, Pennsylvania 17105-3265

SECRETARY'S OFFICE
Public Utility Commission

Dear Ms. Patrick:

If you would be so kind, please put me on your mailing list for Case A110550-Folder 55, concerning Philadelphia Electric Co. (PECO) and its use of a rebuilt transmission line in Bucks and Montgomery Countys.

Thank you for all your help, and I appreciate it greatly.

Very truly yours,

Marc Kipness
Legal Assistant

MK/gp

marc\cmkmjp.ltr

DOCKETED
OCT 20 1993

DOCUMENT
FOLDER