

2

COMMONWEALTH OF PENNSYLVANIA

OPTIONAL 511  
DATE

PUBLIC UTILITY COMMISSION

-----X  
 :  
Letter of Notification of :  
Philadelphia Electric Company : Docket No.  
 relative to reconstructing and :  
 rebuilding of the existing 138 kV : A-110550F055  
 line to operate as a Woodbourne- :  
 Heaton 230 kV line in Montgomery and :  
 Bucks Counties. :  
 :  
 Further hearing. :  
 :  
 -----X

Pages 511 through 735 Hearing Room No. 1  
 State Office Building  
 Broad and Spring Garden Streets  
 Philadelphia, Pennsylvania

Tuesday, October 15, 1991

Met, pursuant to notice, at 10:00 a.m.

BEFORE:

HERBERT SMOLEN, Administrative Law Judge

APPEARANCES:

PATRICIA KRISE BURKET, Esquire  
 P. O. Box 3265  
 Harrisburg, Pennsylvania 17120  
 (For the Commission's Law Bureau)

**RECEIVED**  
 OCT 25 1991

PAUL BONNEY, Esquire  
 2301 Market Street  
 Philadelphia, Pennsylvania 19101  
 (For Philadelphia Electric Company)

SECRETARY'S OFFICE  
 Public Utility Commission

**DOCKETED**  
 OCT 29 1991

**DOCUMENT  
 FOLDER**

Commonwealth Reporting Company, Inc.  
 700 Lisburn Road  
 Camp Hill, Pennsylvania 17011

(717) 761-7150

1-800-334-1063

NVL

## 1 APPEARANCES (Continued):

2 TOM WATSON, Esquire  
3 WARD L. SMITH, Esquire  
4 Crowell & Moring  
5 1001 Pennsylvania Avenue, N.W.  
6 Washington, D. C. 20009  
7 (For Philadelphia Electric Company)

8 ROBERT J. SUGARMAN, Esquire  
9 Sugarman & Associates  
10 16th Floor, City Place  
11 101 North Broad Street  
12 Philadelphia, Pennsylvania 19107  
13 (For PAUSE)

14 TANYA J. McCLOSKEY, Esquire  
15 DIANNE DUSMAN, Esquire  
16 1425 Strawberry Square  
17 Harrisburg, Pennsylvania 17120  
18 (For the Office of Consumer Advocate)

19 ARUNDHATI KHANWALKAR, Esquire  
20 Two North Ninth Street  
21 Allentown, Pennsylvania 18101  
22 (For Pennsylvania Power & Light Company)

23  
24  
25  
-- 0 --

C O N T E N T S

<u>WITNESSES</u>	<u>DIRECT</u>	<u>CROSS</u>	<u>REDIRECT</u>	<u>RE CROSS</u>
Ronald C. Turner				
By Mr. Sugarman	514	---	677	---
By Mr. Watson		519	---	729
By Ms. Khanwalkar		669	---	---
By Ms. Burket		671	---	---

E X H I B I T S

<u>NUMBER</u>	<u>FOR IDENTIFICATION</u>	<u>IN EVIDENCE</u>
<u>Protestant's</u>		
<u>Statements</u>		
Statement No. 1 (Turner)	517	734
<u>Exhibits</u>		
✓ No. Turner-1 (1990 DVRPC aerial photo)	525	733
✓ No. Turner-2 (1965 DVRPC aerial photo)	526	733
✓ No. Turner-3 (USGS quad map)	527	733
✓ No. Turner-4 (Bibliography)		
No. Turner-5 (PECo E/MF document)	722	733
No. Turner-6 (PECo E/MF document)	722	733
<u>Philadelphia Electric Company</u>		
<u>Exhibits</u>		
No. Copy-Turner-1	531	W/DRAWN-666
No. Copy-Turner-2	531	W/DRAWN-666
No. Copy-Turner-3	531	668

E X H I B I T S (Continued)

<u>NUMBER</u>	<u>FOR IDENTIFICATION</u>	<u>IN EVIDENCE</u>
<u>Philadelphia Electric Company (Continued)</u>		
<u>Exhibits (Continued)</u>		
5	Cross-Exam. No. Turner-1 (Florida powerline regulations)	632 668
7	Cross-Exam. No. Turner-2 (New York powerline regulations)	634 668
9	Cross-Exam. No. Turner-3 (Construction plan for Phoenixville project)	661 668
11	Cross-Exam. No. Turner-4 (Construction plan for Phoenixville project)	661 668

--- 0 ---

## P R O C E E D I N G S

1  
2 ADMINISTRATIVE LAW JUDGE HERBERT SMOLEN: This is a  
3 further hearing in Docket A-110550, Folder 055 in  
4 connection with the letter of notification of  
5 Philadelphia Electric Company.

6 I believe this morning's hearing was dedicated to  
7 the receipt of testimony and cross-examination on behalf  
8 of the Protestant Petitioners.

9 Any preliminary matters?

10 (No audible response.)

11 JUDGE SMOLEN: Then let's proceed, Mr. Sugarman.

12 Let the record show that appearances have been  
13 entered by all Counsel who previously participated in  
14 this case, and we welcome to the Commission Co-Counsel  
15 for the Office of Consumer Advocate, Dianne E. Dusman,  
16 Esquire. Welcome.

17 Whereupon,

18 RONALD C. TURNER

19 having been duly sworn, testified as follows:

20 JUDGE SMOLEN: Please state your full name and  
21 business address.

22 THE WITNESS: Ronald C. Turner, 247 North Main  
23 Street, New Hope, Pennsylvania.

24 JUDGE SMOLEN: Mr. Sugarman.

25 MR. SUGARMAN: Thank you, Your Honor.

## DIRECT EXAMINATION

1  
2 BY MR. SUGARMAN:

3 Q. Mr. Turner, would you state your occupation and  
4 professional category or professional status for His  
5 Honor?

6 A. I am a planner, a land planner, and an  
7 architect.

8 Q. And, Mr. Turner, have you prepared testimony  
9 for your appearance here today?

10 A. Yes.

11 Q. I show you a document marked testimony or  
12 entitled testimony of Ronald C. Turner. Is that your  
13 testimony?

14 (Witness perusing document.)

15 A. Yes, it is.

16 Q. And is the testimony contained therein the  
17 testimony that you would give orally if you were to  
18 testify orally here today?

19 A. Yes.

20 Q. And is there anything that you wish to add to  
21 your testimony by way of supplement or correction?

22 A. Yes, one item.

23 Q. And what is that?

24 A. On page five of my testimony, at the completion  
25 of the first paragraph, I would like to note the fact

1 that at the Pennsylvania Planning Association annual  
2 meeting there was a session on, quote, the planning  
3 implications of electromagnetic fields, parentheses,  
4 E/MF. The session was given by two representatives of  
5 Pennsylvania Power & Light and a representative of the  
6 PUC.

7 I wasn't at the hearing or at the session because  
8 of illness. I have the documents that were given out  
9 during that hearing and I also have notes from my staff  
10 members who did attend that hearing.

11 The significance of this particular session were  
12 two-fold: one, in the fact that electromagnetic fields  
13 and their planning consequences are now appearing in the  
14 planning literature and in the conference systems, and  
15 that the representatives of PP&L, according to the notes  
16 that I have, indicated that while there are no conclusive  
17 health effects that in the process of designing of lines  
18 and location of lines and design of the structure  
19 carrying those lines they attempt to reduce the  
20 electromagnetic fields at the edge of the line as a  
21 matter of course.

22 Q. What was the date of that meeting?

23 A. It was Monday, October 7.

24 Q. 1991?

25 A. 1991.

1 Q. So that was since the date that you have  
2 prepared your testimony, is that correct?

3 A. Yes.

4 Q. And with that addition, then, is your testimony  
5 what you would testify to if you were to testify orally  
6 today?

7 A. Yes.

8 Q. Do you adopt and affirm everything in that  
9 testimony as being your facts and opinions?

10 A. Yes.

11 Q. And attached to your testimony is Appendix D,  
12 which is your resume?

13 A. Yes.

14 Q. And is that in fact an accurate compilation to  
15 the extent relevant to this proceeding of your entire  
16 experience and training?

17 A. Yes. Through I think a period sometime the  
18 beginning of last year, yes.

19 Q. And you also attached a list of your recent  
20 testimony from 1988 through 1991. Is that testimony that  
21 you have given in various proceedings?

22 A. Yes.

23 Q. And to the extent that it represents  
24 adjudicative bodies, have you been qualified as an expert  
25 in those proceedings?

1 A. Yes.

2 MR. SUGARMAN: Your Honor, I submit the written  
3 testimony of Mr. Turner as modified or added to here this  
4 morning as being his direct testimony, and the witness is  
5 available for cross-examination.

6 JUDGE SMOLEN: Do you want to mark that?

7 MR. SUGARMAN: Yes, Your Honor. Thank you. I ask  
8 that his testimony be marked as Protestants Exhibit, I  
9 believe, it is 2.

10 JUDGE SMOLEN: Well, we will call it a statement.

11 MR. SUGARMAN: Statement.

12 JUDGE SMOLEN: We have cross-examination exhibits.

13 MR. SUGARMAN: Yes.

14 JUDGE SMOLEN: Let's call this Statement No. 1,  
15 then.

16 MR. SUGARMAN: Statement No. 1.

17 JUDGE SMOLEN: Protestants Statement No. 1.

18 (Whereupon, the document was marked  
19 as Protestant's Statement No. 1  
for identification.)

20 JUDGE SMOLEN: Are you ready to proceed?

21 MR. WATSON: Yes, Your Honor. We would like to  
22 reserve the right to make motions as appropriate after  
23 cross-examination of this witness.

24 JUDGE SMOLEN: That's fine.

25 MR. WATSON: I guess at the beginning we probably

1 should move to exclude the supplemental testimony just  
2 given on the grounds there is no foundation for it. The  
3 witness testified he was not present. These are  
4 materials about a conference. It has nothing to do with  
5 this case, this line, this proceeding. It just clutters  
6 the record with extraneous material, Your Honor, and if  
7 we follow that approach then presumably everybody can  
8 bring in conference reports from every such conference  
9 that they have not attended. So we think for lack of  
10 foundation and those reasons the material ought to be  
11 excluded.

12 JUDGE SMOLEN: Mr. Sugarman?

13 MR. SUGARMAN: The testimony is admissible or the  
14 testimony is useable by the witness to the same extent  
15 that other witnesses rely upon studies and reports that  
16 are not available for cross-examination. They are  
17 qualified by the testimony of the witness as to his  
18 knowledge and they can be cross-examined and to the same  
19 extent they carry the weight that the witness' testimony  
20 affords them.

21 JUDGE SMOLEN: I will permit the supplementary  
22 testimony of the witness and overrule the objection.

23 Let's proceed with cross-examination.  
24  
25

## CROSS-EXAMINATION

1

2 BY MR. WATSON:

2

3

Q. Good morning, Mr. Turner.

4

A. Good morning.

5

6

Q. Mr. Turner, I believe in referring to your qualifications, you said you were an architect and a planner?

7

8

A. Correct.

9

Q. Do you have a bachelors degree in architecture?

10

A. That's correct.

11

12

Q. Do you have a masters degree or doctorate degree --

13

A. I do not.

14

Q. -- in any discipline?

15

A. I do not.

16

17

Q. You discuss zoning issues at several points in your testimony, is that correct?

18

A. Yes.

19

20

21

22

Q. In fact, I believe section four of your testimony deals with zoning issues. It's a section entitled The Traditional Way of Handling Off-site E/MF Impacts in Township Zoning and Plan Ordinances?

23

A. Yes.

24

Q. That is page three.

25

A. Okay.

1 Q. And section six of your testimony, which is, I  
2 believe, on page six, contains your policy  
3 recommendations, and that section also has a discussion  
4 of zoning issues?

5 A. Yes, sir.

6 Q. Would it be fair to say that your analysis of  
7 these zoning issues is an important basis for the  
8 conclusion you reach in your testimony?

9 A. Yes, it is an essential part of my professional  
10 opinions and viewpoints.

11 Q. As set forth in your testimony?

12 A. Yes.

13 Q. In section two of your testimony you discuss  
14 the land use context, I believe you call it?

15 A. Yes.

16 Q. And at the end of that section you conclude  
17 that continued urbanization of the townships near the  
18 proposed powerline here is a significant factor in  
19 deciding whether the line should be energized?

20 A. Yes.

21 Q. So your analysis of these land use patterns is  
22 also an essential basis for the conclusions reached in  
23 your testimony?

24 A. Yes.

25 Q. Now, you have conducted a land use study or

1 analysis -- I don't know quite what the appropriate word  
2 is -- of the area around the proposed powerline?

3 A. Yes. We used aerial photographs and USGS maps  
4 and as well as reviewed the township zoning ordinances  
5 that are the townships within which the line is conveyed.

6 Q. And this land use study provided the basic  
7 information on the urbanization that you referred to in  
8 your testimony?

9 A. Part of the material in that study provided  
10 that -- supported that conclusion.

11 Q. Now, you consulted a map of the area as part of  
12 your land use study?

13 A. Yes.

14 Q. And I believe your testimony indicates that you  
15 were going to submit this map as an exhibit?

16 A. We did have it and I have the maps in the room.  
17 We did deliver those maps to Mr. Sugarman's office in  
18 response to the interrogatories and in response to my  
19 commitment that they would be delivered.

20 MR. SUGARMAN: The appendix is intended to be  
21 incorporated with the testimony. So it is intended to be  
22 offered as an exhibit as part of the testimony.

23 JUDGE SMOLEN: Are there photographs -- let me  
24 interrupt. Are there photographs as well?

25 MR. SUGARMAN: No.

1 JUDGE SMOLEN: This page nine says supplement will  
2 be a strip map, aerial photographs, bibliography of  
3 articles, examples of current performance and  
4 environmental ordinances. Are they all attached?

5 MR. WATSON: Your Honor, the only thing we have  
6 attached is this thing here that is a map that says land  
7 use study, Trenton Cut-Off. But I believe Mr. Turner was  
8 referring to the USGS quad maps for the area that he  
9 relied upon.

10 BY MR. WATSON:

11 Q. Is that correct?

12 A. The USGS quad maps. But we also received  
13 photographs of the region taken in 1965 and 1990 and  
14 connected those maps, those aerial photographs, and  
15 depicted on those maps the area of the Trenton Cut-Off,  
16 or where the line was going. Those maps were delivered  
17 to Mr. Sugarman's office along with the annotated  
18 bibliography, the bibliography. And I don't know when  
19 they were sort of absorbed in the response to the  
20 interrogatories or were attached to the testimony?

21 MR. SUGARMAN: I can say, Your Honor, that they  
22 were provided to PECO in response to interrogatories and  
23 were delivered to PECO on or about October 1 and were  
24 returned to me by PECO last Monday or Tuesday.

25 JUDGE SMOLEN: My concern is someone other than

1 this Administrative Law Judge and including this  
2 Administrative Law Judge who reads the record and reads  
3 this testimony may be looking for supplements which are  
4 set forth on page nine. I would like to correct page  
5 nine so people won't be on a treasure hunt looking for  
6 items which may or may not be in the record.

7 MR. SUGARMAN: Your Honor, I would be happy to  
8 submit the map and the photographs and the bibliography  
9 as exhibits. I understand what Your Honor is saying now.

10 MR. WATSON: Your Honor, we don't -- just to make  
11 it clear, we are not interposing any objection here. If  
12 Mr. Sugarman is proposing to put them in or he is not  
13 proposing to put them in, all I am trying to do at this  
14 point is simply get from the witness an identification of  
15 what they are and then I might like to ask a few  
16 questions about them. The handling of them, though, in  
17 terms of the testimony is not a matter that we are  
18 insisting upon their inclusion or exclusion at this  
19 point.

20 MR. SUGARMAN: Your Honor, I would respectfully  
21 like to mark them as exhibits at this time.

22 JUDGE SMOLEN: Well, we don't have anything to mark  
23 as exhibits.

24 MR. SUGARMAN: We have them.

25 JUDGE SMOLEN: Do we have them here?

1 MR. SUGARMAN: Yes, they are.

2 JUDGE SMOLEN: Can people cross-examine on them?

3 MR. SUGARMAN: Yes, sir. As I said, they were  
4 previously provided to PECO and they are available here  
5 this morning. It was just my oversight. They were  
6 referenced in the testimony and I was confusing the  
7 appendices with the supplements.

8 MR. WATSON: Your Honor, we have some already put  
9 on poster board so they will stand up on an easel.

10 JUDGE SMOLEN: Well, that is okay. But if they are  
11 going to be referred to in the testimony, nobody knows  
12 what they are. So they should be here.

13 MR. SUGARMAN: I would request that these aerial  
14 photographs, Trenton Cut-Off study, Ronald C. Turner,  
15 dated September 22 --

16 JUDGE SMOLEN: Before you go on, are we going to  
17 have any problem with the photographs, as to who took  
18 them, when they were taken, et cetera, as far as  
19 identifying photographs as normally is done in the  
20 initial procedure?

21 MR. SUGARMAN: They will identify them, Your Honor.  
22 They are official records.

23 JUDGE SMOLEN: Okay.

24 MR. SUGARMAN: These aerial photographs are taken  
25 by the Delaware Valley Regional Planning Commission and

1 it is so indicated on them and they are part of the  
2 regular photography mapping program of the DVRPC.

3 JUDGE SMOLEN: Do you want to give some identifying  
4 feature of them so we can have them marked?

5 MR. SUGARMAN: Yes. The base map that is before  
6 Mr. Turner's red lines which indicate the right-of-way,  
7 the base map as published by the DVRPC identifies the  
8 aerial photograph as 90-A37B.

9 MR. WATSON: I think those marks are not the line,  
10 but the railroad track.

11 JUDGE SMOLEN: Is the right-of-way referenced?

12 MR. WATSON: I don't think it is the right-of-way  
13 for the line.

14 JUDGE SMOLEN: Off the record.

15 (Discussion off the record.)

16 MR. SUGARMAN: This will be Protestant's 1, Your  
17 Honor? Direct 1? We had Cross 1 before.

18 JUDGE SMOLEN: We have a number of exhibits from  
19 Protestants. Why don't we mark it with the witness'  
20 name. Turner Exhibit No. 1.

21 MR. SUGARMAN: Turner Exhibit No. 1, Your Honor.

22 (Whereupon, the document was marked  
23 as Protestant's Exhibit No. Turner-1  
for identification.)

24 MR. SUGARMAN: Turner Exhibit No. 1 is a  
25 combination of several DVRPC aerial photographs, which

1 the one in the upper right-hand corner is marked DVRPC  
2 90-A38-B45.

3 Turner Exhibit 2 is DVRPC 1965-A38-B45 and adjacent  
4 quadrangles from the DVRPC. They are scale one to 400  
5 and they are identified by the witness as Trenton Cut-Off  
6 study dated September 22, 1991. Those are the two aerial  
7 photographs.

8 (Whereupon, the document was marked  
9 as Protestant's Exhibit No. Turner-2  
for identification.)

10 JUDGE SMOLEN: Now, are we going to be able to make  
11 those available for everyone and for the record?

12 MR. SUGARMAN: Yes.

13 Turner Exhibit 3 will be an USGS quadrangle, which  
14 quadrangle is identified as the Langhorne quadrangle and  
15 it is also identified as the Trenton Cut-Off study by  
16 Mr. Turner, September 22, 1991.

17 MR. WATSON: What is the date of these others?

18 MR. SUGARMAN: The USGS is --

19 MR. WATSON: No, these photos here.

20 MR. SUGARMAN: The first one is 1990.

21 MR. WATSON: No, no. The date of the --

22 MR. SUGARMAN: The date of Mr. Turner's work?  
23 September 22, '91.

24 MR. WATSON: 9/22/91. Is the other one the same  
25 date?

1 MR. SUGARMAN: The same date.

2 JUDGE SMOLEN: You said '91?

3 MR. SUGARMAN: '91.

4 JUDGE SMOLEN: Okay.

5 MR. SUGARMAN: With respect to the USGS Langhorne  
6 quadrangle, which will be Turner-3, that document was  
7 dated 1966 with a photo revision in 1973 by the USGS.

8 JUDGE SMOLEN: All right. That is Turner-3.

9 (Whereupon, the document was marked  
10 as Protestant's Exhibit No. Turner-3  
for identification.)

11 MR. SUGARMAN: They all have placed on them red  
12 lines which were placed on there by the witness and I  
13 will let him describe what they are.

14 JUDGE SMOLEN: These documents are in response to  
15 this supplement listed on page nine of the witness'  
16 Statement No. 1?

17 MR. SUGARMAN: Yes, Your Honor. That's correct.

18 JUDGE SMOLEN: Okay. You said there is an aerial  
19 photograph of 1950 there as well? Or are you going to  
20 strike that from your testimony?

21 MR. SUGARMAN: It should say '65.

22 JUDGE SMOLEN: So we are now discussing page nine,  
23 of Protestant's Statement No. 1, which is Mr. Turner's  
24 prepared testimony, and we are now talking about  
25 supplement number two which says aerial photographs,

1 1950, 1990. Are those dates to be changed, Mr. Turner?

2 THE WITNESS: They should read 1965 and 1990.

3 JUDGE SMOLEN: Well, now, Mr. Sugarman said 1991.

4 Let's be consistent.

5 MR. SUGARMAN: Your Honor, 1991 is the date of  
6 Mr. Turner's study. The base photographs are 1990.

7 JUDGE SMOLEN: All right. So then 1950 is stricken  
8 and in place of that 1965 is to be inserted.

9 MR. SUGARMAN: Yes, Your Honor.

10 As I indicated in the marking placed on the  
11 photographs by the DVRPC they have a number and the first  
12 part of that number represents the year that the  
13 photographs were taken.

14 JUDGE SMOLEN: Let me ask, Turner Exhibit No. 1, is  
15 that a 1990 photograph or a 1991 photograph?

16 MR. SUGARMAN: 1990 photograph; 1991 study.

17 And the second photograph is a 1965 photograph with  
18 a 1991 study superimposed.

19 JUDGE SMOLEN: Very good.

20 MR. SUGARMAN: And the third document is a 1966,  
21 revised 1973, again, with a 1991 study by the witness.

22 JUDGE SMOLEN: All right.

23 MR. SUGARMAN: Superimposed.

24 JUDGE SMOLEN: Let's go on from there.

25 MR. SUGARMAN: Your Honor, should I leave those on

1 the floor or put them up?

2 JUDGE SMOLEN: Well, the reporter needs two copies,  
3 I need a copy and everyone else needs a copy since they  
4 were marked as exhibits. Now, that is your obligation if  
5 you want them to be admitted.

6 MR. SUGARMAN: Right.

7 MR. WATSON: Your Honor, Mr. Sugarman has made  
8 these available to Philadelphia Electric. We have had a  
9 chance to look at them. There is no hurry about getting  
10 us a copy if he wants to take some time to do that.

11 JUDGE SMOLEN: Thank you very much for your  
12 courtesy.

13 MR. SUGARMAN: Thank you, Your Honor. Maybe I will  
14 put them up on the table.

15 JUDGE SMOLEN: Let's resume the cross-examination,  
16 please.

17 MR. WATSON: Your Honor, we have some copies of  
18 some of these that we want to ask the witness about.

19 MR. SUGARMAN: Your Honor, while we are at it, if I  
20 may mark the bibliography.

21 JUDGE SMOLEN: Was that attached?

22 MR. SUGARMAN: It was not attached, as I recall.  
23 It was provided to the Applicant and the other Counsel as  
24 answers -- part of the answers to interrogatories. Or  
25 made available, I should say.

1 (Pause.)

2 JUDGE SMOLEN: Let's go ahead with the  
3 cross-examination. We can deal with that later.

4 Before you go back to cross-examination, you have  
5 set up various aerial photographs. Do any of them -- are  
6 any of them those which have already been marked by  
7 Mr. Sugarman?

8 MR. WATSON: They are copies.

9 JUDGE SMOLEN: Of which ones so that when we --  
10 perhaps you can refer to them by their exhibit number  
11 when you are questioning the witness. For my purposes  
12 which is which?

13 MR. SUGARMAN: This is Turner --

14 JUDGE SMOLEN: Wait, wait. When you say "this" it  
15 doesn't mean anything for the record.

16 MR. SUGARMAN: Well, I wouldn't want these  
17 identified as exhibits, so --

18 JUDGE SMOLEN: First of all, they are documents by  
19 PECO and I asked PECO Counsel which of these exhibits  
20 does he say are those of the witness -- are copies of  
21 those of the witness.

22 MR. WATSON: Could we have the court reporter mark  
23 this for identification so I can then refer to it?

24 JUDGE SMOLEN: Which one is that?

25 MR. WATSON: This is the '65 map.

1 JUDGE SMOLEN: The '65 map was Turner-2, I believe.  
2 Is that correct?

3 MR. SUGARMAN: That's correct. The aerial  
4 photograph, the '65 aerial photograph.

5 MR. WATSON: This is PECO's copy of Turner-2.

6 JUDGE SMOLEN: Okay. So that one is Turner-2.

7 MR. WATSON: PECO's copy of it.

8 JUDGE SMOLEN: You can mark it at the edge or  
9 wherever you want to mark it as 2.

10 MR. WATSON: It has three panels. I can mark it  
11 down here.

12 JUDGE SMOLEN: All right.

13 MR. WATSON: I marked it PECO Copy-Turner-2.

14 JUDGE SMOLEN: How about the other one?

15 MR. WATSON: This is 1990, the 1990 map. Why don't  
16 we mark this PECO Copy-Turner-1.

17 JUDGE SMOLEN: All right. Let's go ahead, then.

18 MR. WATSON: Your Honor, just for clarity, why  
19 don't we go ahead and mark this.

20 JUDGE SMOLEN: Very good. Is this 3?

21 MR. WATSON: This is the quad map, PECO  
22 Copy-Turner-3.

23 (Whereupon, the documents were marked  
24 as PECO Exhibits Nos. Copy-Turner-1,  
25 Copy-Turner-2 and Copy-Turner-3 for  
identification.)

1 JUDGE SMOLEN: Very good.

2 Let me ask the witness, you have had an opportunity  
3 to look at what have been marked as PECO copies of Turner  
4 Exhibits 1, 2 and 3? Are they in fact true and correct  
5 copies of your exhibits?

6 THE WITNESS: I believe so. In terms of the aerial  
7 photographs, I am certain. Let me just look at the other  
8 one.

9 JUDGE SMOLEN: Please. Look at them so we know we  
10 are dealing with the same materials.

11 (Witness perusing document.)

12 MR. SUGARMAN: The only thing I would want to say,  
13 Your Honor, is because they are copies they don't depict  
14 -- they suffer in the copying.

15 JUDGE SMOLEN: Yours are the ones which were marked  
16 first. We will deal with that later on. But we want to  
17 know if they are the same exhibits.

18 MR. SUGARMAN: They appear to depict the same  
19 features.

20 JUDGE SMOLEN: All right. Let's go ahead once the  
21 witness is satisfied.

22 THE WITNESS: The only exception would be in the  
23 PECO exhibit of the USGS quad maps there is not a red  
24 line depicting the Trenton Cut-Off, which is on the  
25 exhibit that I had prepared.

1 JUDGE SMOLEN: Okay. Let's go ahead with the  
2 cross-examination.

3 BY MR. WATSON:

4 Q. May I ask with respect to the PECO  
5 Copy-Turner-3, the red line that you referred to, did you  
6 add that to your Exhibit Turner-3?

7 A. Yes.

8 Q. So, then, this would be a correct copy of the  
9 quad map itself?

10 A. That's correct.

11 JUDGE SMOLEN: When you say "this", you mean the  
12 PECO copy?

13 MR. WATSON: This PECO copy of Turner-3 would be a  
14 correct copy of the quad map itself.

15 JUDGE SMOLEN: All right.

16 BY MR. WATSON:

17 Q. Let me refer you to your Exhibit 3. That is an  
18 USGS quad map, correct?

19 A. Yes.

20 Q. And that provides information on the areas that  
21 have become urbanized since 1973?

22 A. The map is divided into two quads. One quad  
23 was photo revised, if I may use your exhibit --

24 Q. You are referring to PECO Copy-Turner-3?

25 A. Right. It is essentially the same map.

1           The left-hand quad, which is the Hatboro quad, has  
2 been photo revised to 1981. The right-hand quad was  
3 photo revised in 1973. For that reason we used the  
4 aerial photographs as supplements because we could not  
5 get up to current time in either one of the maps. But  
6 this has -- the U.S. quad maps have value at least in the  
7 time frame of 1965 to 1981 and 1973.

8           Q. So roughly speaking the quad map, Turner-3 in  
9 other words, and the photographs, Turner-1 and 2,  
10 basically cover the same geographic area?

11           A. Basically correct.

12           Q. And the photographs may cover only a portion of  
13 the area covered by the quad maps?

14           A. Yes. We did no overlay to determine whether or  
15 not they were co-terminus and where the overlaps were.  
16 The only focus was to center the photographs if possible  
17 on the lines themselves and for aerial photographs that  
18 were on a grid that included the rights-of-way.

19           MR. WATSON: Your Honor, can you see that far?

20           JUDGE SMOLEN: So far. Let's see what you are  
21 going to ask about it.

22           BY MR. WATSON:

23           Q. Mr. Turner, could you take a marker and just  
24 mark for us where the powerline will go on this map?  
25 Make a thin line so you don't block out any of the

1 detail, if you would. And you are marking that on PECO  
2 Copy of Turner-3.

3 (Witness marking document.)

4 A. I must say, when the line splits -- you have  
5 asked for where the powerline is. I can only depict the  
6 rights-of-way of the rail line. We did not examine which  
7 end of the rail line, which one of the branches, held the  
8 power. So when I am drawing here, I am drawing the rail  
9 line, not necessarily where the powerline might be, on  
10 which one of the branches, so to speak, of the rail.

11 Q. And as to the portion where it does not split,  
12 have you identified where the powerline is on the  
13 right-of-way?

14 A. I read some evidence on that. I did not  
15 conduct any detailed study as to exactly where it was  
16 located.

17 Q. You just assumed it was within the railroad  
18 right-of-way?

19 A. That's correct.

20 Q. But not on any particular side of it?

21 A. That's correct.

22 Q. Now, could you also just mark the substations  
23 that the line connection, the beginning and ending point  
24 of the line?

25 A. Well, here is the general location of Heaton,

1 and I will just draw a circle.

2 Q. Just a circle or a square or something,  
3 wherever you think it is.

4 A. And Woodbourne.

5 (Witness marking document.)

6 Q. And your circles on each end indicate on the  
7 left which substation?

8 A. Heaton.

9 Q. And on the right?

10 A. Woodbourne.

11 Q. I know you know that. I am just trying to get  
12 it in the record here because it doesn't appear  
13 otherwise.

14 Now, your land use study covered the Township of  
15 Northampton, correct?

16 A. Yes.

17 Q. And you provided some data on the population  
18 increase of Northampton?

19 A. Yes.

20 Q. And that was part of your land use study?

21 A. Yes.

22 Q. And I think you testified that, in your direct,  
23 that over the last 40 years the population of Northampton  
24 Township has increased by 1,475 percent?

25 (Witness perusing document.)

1 A. During the last what time period, sir?

2 Q. The last 40 years, I believe. Take a look at  
3 Exhibit B of your testimony.

4 (Witness perusing document.)

5 Q. Or Appendix B, I guess.

6 A. The increase in that 40 year period is 1,475  
7 percent.

8 Q. Okay. And is Northampton Township one of the  
9 areas that you referred to that has had continued  
10 urbanization?

11 A. Yes.

12 Q. And you testified that would be a significant  
13 factor in deciding whether to energize this line?

14 A. Yes. The basis of the study, and maybe this  
15 would help clarify it, is that one of the significant  
16 criterion in prudent avoidance is to avoid running lines  
17 through populated areas. So that we examined the history  
18 of the communities contiguous to the line to see whether  
19 or not they were both urbanized and were continuing to be  
20 urbanized to see whether or not the energizing of this  
21 line would meet the criteria of prudent avoidance.

22 Q. Would you take this other marker here -- I will  
23 give you a different color -- and can you just mark the  
24 boundaries of Northampton Township, please?

25 A. It is very difficult on this map, I might say.

1 I would have to refer . . . to my little map to do it  
2 more clearly.

3 Q. That's fine.

4 A. The boundary lines on the USGS maps are  
5 frequently indistinct. This will take a while. I do not  
6 have my exhibit, including the graphic in my exhibit.  
7 Could I have that?

8 Q. Sure. I will be glad to loan you a copy.

9 (Document handed to witness.)

10 (Witness marking document.)

11 A. Are you going to ask me to do all of the  
12 townships?

13 Q. There is a good chance that I will.

14 MR. WATSON: Your Honor, we have a map that we have  
15 marked up that is our own map but that marks out the  
16 boundaries of these townships in relation to this quad  
17 map. In the interest of saving time and just making it  
18 simpler for the witness to be able to find the townships  
19 I would be happy to share this with him.

20 MR. SUGARMAN: Can we look at it?

21 MR. WATSON: And Mr. Sugarman can take a look at  
22 this.

23 MR. SUGARMAN: If we can take a look at it, perhaps  
24 we can agree on it.

25 MR. WATSON: Let me just offer those to

1 Mr. Sugarman and let the expert look.

2 JUDGE SMOLEN: Let's go off the record for a minute  
3 to give the expert a chance to review these documents and  
4 the other lawyers.

5 (Discussion off the record.)

6 MR. WATSON: I think the pending question to the  
7 witness, Your Honor, is would the witness care to use our  
8 maps showing the townships, and I have offered those.

9 JUDGE SMOLEN: But you have asked only for one  
10 township to be drawn?

11 MR. WATSON: At this time, yes, Your Honor. That  
12 is Northampton Township, would he draw it, and I am  
13 counting on him to draw where the township is.

14 JUDGE SMOLEN: And we understand this is  
15 approximate.

16 MR. SUGARMAN: Your Honor, while he is responding,  
17 I would like to note one area of discrepancy between our  
18 Exhibit 3 and PECO's copy, and that is that on our  
19 Exhibit 3 there are three areas that are colored in with  
20 purple boxes, one, two, three.

21 JUDGE SMOLEN: And they are not on PECO's copy?

22 MR. SUGARMAN: No.

23 MR. WATSON: I am just going to leave it to the  
24 witness to make the identification himself, Your Honor.

25 MR. SUGARMAN: Sure.

1 (Witness marking document.)

2 THE WITNESS: I am having difficulty at this one  
3 intersection at Northampton Township.

4 MR. WATSON: Why don't you make a squiggly line or  
5 something there. Do you want to look at these other  
6 maps? Would it help you?

7 THE WITNESS: Sure, it would help me.

8 MR. WATSON: Feel free. We are offering them to  
9 you to use them.

10 MR. SUGARMAN: They don't have the other part of  
11 Northampton Township.

12 THE WITNESS: It doesn't go up that high.

13 To use the USGS maps for the physical boundaries  
14 sometimes is very difficult. They become obscured with  
15 other markings. I have worked in Northampton Township  
16 before. I just don't recall what happened in that  
17 area.

18 I will just extend the line up -- that is Bristol  
19 Pike -- Bristol Road, rather.

20 MR. WATSON: Maybe you can put a dash line in there  
21 if you are not sure. As the Judge said, we are not  
22 asking for precision to the inch here. We just want to  
23 know where they are, where the townships are that you  
24 have talked about. So if you are doubtful put a dashed  
25 line there.

1 (Witness marking document.)

2 BY MR. WATSON:

3 Q. Could you just mark that area with a NH for  
4 Northampton for ease of reference, please?

5 (Witness marking document.)

6 Q. And, Mr. Turner, what about between -- this  
7 does not connect up from the lowest point of the red line  
8 for the moment to this here. Can you connect those up?

9 A. Well, I will make an assumption here. I will  
10 put this in as a dotted line also.

11 Q. Okay.

12 (Witness marking document.)

13 Q. Now, would you please mark the other eight  
14 townships just as you have marked that one? Again,  
15 feeling free to use these maps that we have offered up  
16 here, feeling free to use a dashed line if you don't know  
17 where the township boundaries are.

18 MR. SUGARMAN: Well, I would object to that. He is  
19 saying he does not know precisely where it is. He can  
20 mark it approximately. The suggestion that he does not  
21 know, I think, is...

22 JUDGE SMOLEN: I think the question was to  
23 approximate.

24 MR. SUGARMAN: All right.

25 MR. WATSON: It was just if he can't pinpoint the

1 thing he should mark where he thinks it is and use a  
2 dashed line.

3 (Witness marking document.)

4 THE WITNESS: Can I get a drink of water?

5 JUDGE SMOLEN: Let's a take a break, then.

6 (Pause.)

7 MR. WATSON: I could mark these things, Your Honor,  
8 but I'm not the witness.

9 MR. SUGARMAN: You could offer a marked copy and  
10 see if we will accept it.

11 MR. WATSON: It's not completely marked. And I  
12 want it on his exhibit.

13 MR. SUGARMAN: I don't understand why we are taking  
14 all this time, though. If you wanted to bring out this  
15 information why don't you just show him something and ask  
16 if he will accept it as an approximation.

17 MR. WATSON: Because I want to do it on his map and  
18 I want him to mark it on the map that he used so that we  
19 can refer to the same material.

20 MR. SUGARMAN: I find this objectionable, Your  
21 Honor, as being unnecessary and as basically wasting  
22 time. If this is a memory game to see if there is any  
23 witness in the world that could precisely delineate the  
24 boundaries on a map of eight townships --

25 JUDGE SMOLEN: He was not asked to precisely

1 delineate it. He was asked to approximate them and it is  
2 cross-examination. Let's go ahead with it.

3 (Witness marking document.)

4 THE WITNESS: As uncertain as the drafting quality  
5 is, this represents the approximate locations of the  
6 townships mentioned in the analysis, Middletown to the  
7 right-hand side of the USGS, Northampton to the upper  
8 center, Upper Southampton, left of center --

9 BY MR. WATSON:

10 Q. Excuse me. In referring to these, I think for  
11 clarity in the record later let me ask you about the  
12 initials. MI on the map indicates...?

13 A. Middletown.

14 Q. And NH?

15 A. Northampton.

16 Q. That's two. And L?

17 A. Langhorne.

18 Q. That's three. And LS?

19 A. Lower Southampton.

20 Q. Four. And US?

21 A. Upper Southampton.

22 Q. That's five. And UM?

23 A. Is Upper Moreland.

24 Q. Six. And this small I?

25 A. Ivyland.

1 Q. That's seven.

2 A. I am trying to find the boundary from Lower  
3 Moreland, and I am having difficulty in finding that in  
4 terms of the boundaries here. If you give me a moment I  
5 will play around in the Bryn Athyn area and find it.

6 (Witness marking document.)

7 Q. Mr. Turner, now can we continue identifying  
8 now?

9 A. Yes.

10 Q. And the additional one you have marked with a  
11 LM?

12 A. Lower Moreland.

13 Q. Let's see if I can count them. Ivyland is one,  
14 Upper Moreland is two, Lower Moreland is three, Upper  
15 Southampton is four, Northampton is five, Lower  
16 Southampton is six, Middletown is seven, Langhorne is  
17 eight. We are missing one.

18 A. There are two boroughs, Bryn Athyn Borough and  
19 Langhorne Borough, and Hatboro Borough that are noted in  
20 the region. There are a total of nine municipalities  
21 noted.

22 Q. Just mark the ones that you have used in your  
23 study.

24 (Witness marking document.)

25 A. I put additional initials on. The H stands for

1 Hatboro and the BA stands for Bryn Athyn.

2 Q. Mr. Turner, could you check again and see if in  
3 fact the area that you have marked with a H for Hatboro  
4 actually extends -- how far down it extends here, the  
5 line between Upper Moreland and Hatboro? You can just  
6 put a dash in that gap if you would like.

7 (Witness marking document.)

8 Q. Mr. Turner, thank you. I know it is difficult  
9 sometimes to draw things and I appreciate you taking the  
10 time to draw these out for us.

11 Now, I think I was referring before we drew these  
12 on the map to Northampton Township. Does this map  
13 include all of Northampton Township or is there more  
14 going off the map to the north?

15 A. There is a little bit more going off to the  
16 north around the Neshaminy.

17 Q. Do you know about how large Northampton  
18 Township is in square miles?

19 A. No. It's a very large township but I don't  
20 have that data here.

21 Q. Would it be more than 25 square miles?

22 A. I could not judge. It's a large township and  
23 large townships have 15 to 20 square miles in them.  
24 Northampton Township I think is the third largest  
25 township in Bucks County.

1 Q. Would you accept more than 25 miles subject to  
2 check?

3 A. I will accept it as, you know, a variable that  
4 I will use, but I will qualify it as being your variable,  
5 your number.

6 Q. And we can provide you with the number. That  
7 is a matter of public record.

8 JUDGE SMOLEN: Fine.

9 BY MR. WATSON:

10 Q. Can you tell us just in distance how far it is  
11 from the upper part of Northampton Township shown at the  
12 top of the map down to the powerline that you have marked  
13 in black?

14 A. I am using as my measurement the scale of one  
15 mile and I am just using my finger spread to do that, and  
16 I would suggest it is between four to five miles from one  
17 end to the other.

18 Q. Now, this is on -- when you say you guess it is  
19 that far, this is PECO Copy of Turner-3, and this is the  
20 same quad map that you used, though?

21 A. Yes, I would agree that it is four to five  
22 miles, approximately, from the line itself to the  
23 northern-most boundary of Northampton Township.

24 Q. But we are using the same map?

25 A. Oh, yes.

1 Q. The same one you used?

2 A. Yes.

3 Q. Now, let's look down at the lower portion here  
4 where the powerline crosses Northampton Township. Do you  
5 see that area?

6 A. Yes.

7 Q. Now, did you include data about the growth and  
8 urbanization of Northampton Township from that area down  
9 there near the powerline?

10 A. No, we didn't. Maybe --

11 Q. You --

12 A. No, we did not.

13 Q. So you excluded that area from your data?

14 A. No. Excuse me. We included all of Northampton  
15 in the analysis of the townships that was presented on my  
16 testimony. All of the township was presented.

17 Q. So you didn't break out the portion of  
18 Northampton that is near the powerline?

19 A. No.

20 Q. You included the entire Northampton Township in  
21 terms of your urbanization data?

22 A. That's correct.

23 Q. Now, I believe you testified that you believe  
24 the impact from this line would be the concern about the  
25 E/MF issue?

1           A. I only focused on that concern. Other concerns  
2 which might have dealt with aesthetics and sparking and  
3 other noise I discounted because the line had been there,  
4 the rail line had been there.

5           Q. So you focused on the E/MF issue.

6           Now, do you know whether the concern for E/MF is a  
7 concern for electric fields or a concern about magnetic  
8 fields?

9           A. Well, I think probably the public concern is  
10 indistinct but I am reading in the literature that the  
11 magnetic fields are really the key since they are  
12 difficult to manage and shield.

13          Q. And the magnetic fields in the literature you  
14 have seen are sometimes referred to as electromagnetic  
15 fields?

16          A. Yes.

17          Q. Now, have you seen any information about the  
18 field levels that would be produced by this line?

19          A. No.

20          Q. Do you have any basis to disagree with the  
21 calculations of magnetic fields done by Mr. Boeggeman in  
22 this case?

23          A. I really didn't review them since I have no  
24 basis for reviewing the calculations.

25          Q. Now, I believe on your exhibit you added some

1 areas that you colored in in purple which showed what you  
2 called increased urbanization?

3 A. Yes. We did that in reviewing the aerial  
4 photographs. We colored in some additional areas on the  
5 right-hand quadrant, which is the Langhorne quadrant,  
6 since the photo revision had only come up to 1973.

7 Q. Could you just mark, then, where in the  
8 Langhorne quadrant that you had added a purple area for  
9 urbanization? And feel free to look at Turner Exhibit 3.

10 (Witness marking document.)

11 Q. Maybe we ought to do one at a time for the  
12 record. You are marking an area and shading it in?

13 A. Yes. The first area is at the intersection of  
14 Winchester and Yardley Road. And if you want me to put a  
15 number on it, I can put a number.

16 Q. Is that in Langhorne?

17 A. It's in Middletown.

18 Q. Okay. Put a one by that one.

19 (Witness marking document.)

20 Q. Can you just basically do the same for the  
21 other two, please?

22 (Witness marking document.)

23 Q. You have marked those as one, two and three,  
24 the areas that you have added to the --

25 A. Yes.

1 Q. -- to what was Turner Exhibit 3 before your  
2 additions. Thank you.

3 A. You are welcome.

4 Q. Mr. Turner, can you identify the factors that  
5 would influence the magnetic field levels from this line  
6 along here?

7 A. Obviously the charge to the line, the height of  
8 the towers and the configuration of the lines on the  
9 towers.

10 Q. Okay.

11 A. As well as the distance from the towers. That  
12 would be the variable that would be investigated based on  
13 the configuration.

14 Q. Now, let me refer you to your Appendix B of  
15 your testimony. It is called Population and Percent  
16 Change, 1950 to 2010. Do you have a copy of that?

17 A. Yes, I do.

18 Q. So your study in addition to Northampton  
19 Township also covered Hatboro Township, correct?

20 A. Hatboro Borough.

21 Q. And I believe your study showed that over the  
22 last 40 years the population of Hatboro Borough has  
23 increased by over 50 percent?

24 A. Yes.

25 Q. And is Hatboro Borough one of the areas that

1 Q. How far is Hatboro Borough from the line?

2 A. Within a half a mile but I am not sure.

3 Q. Within a half mile or so?

4 A. Yes. The function of the urbanization factor  
5 is to establish whether or not we are in a continued  
6 urbanizing area and whether the population will be  
7 continuing to come to that region.

8 Q. Did you conduct an analysis to determine  
9 whether anyone from Hatboro Borough would experience  
10 increased magnetic fields after this line is energized?

11 A. No. I did no direct field measurements at all.

12 Q. Did you include data from portions of Hatboro  
13 Borough that will not be adjacent to this line?

14 MR. SUGARMAN: I object to that unless we are  
15 clarifying include in what.

16 MR. WATSON: Include in his Exhibit B -- Table B of  
17 his testimony, called his land use study.

18 MR. SUGARMAN: Okay.

19 A. I included the entire township -- the entire  
20 borough. Pardon me.

21 BY MR. WATSON:

22 Q. Now, let me refer you to PECO Copy of Turner-1  
23 and 2. Can you identify for us what you consider a  
24 better route between these two substations through this  
25 area?

1 has I believe what you called continued urbanization that  
2 you testified should be a significant factor in deciding  
3 whether to energize this line?

4 A. Yes.

5 (Pause.)

6 A. I might say that of the issue of continued  
7 urbanization is that Hatboro Borough is fairly well  
8 developed at this point and will probably not have much  
9 additional population unless there are significant  
10 divestitures of public facilities. But it has been  
11 urbanized over the period from 1950 to 1990.

12 Q. Can you tell us where the line enters Hatboro  
13 Borough?

14 A. It really does not enter Hatboro Borough  
15 directly. I believe it is immediately to the south of  
16 the borough.

17 Q. When you say it does not enter it directly,  
18 does it enter it indirectly?

19 A. No. I don't believe it enters Hatboro Borough.  
20 Maybe to save time, I will give you, if you would like,  
21 the basis for establishing a corridor.

22 We look at a corridor as the surrounding  
23 municipalities and we include those municipalities that  
24 are approximate. They don't have to be directly  
25 contiguous.

1 A. No.

2 MR. SUGARMAN: I object. These hearings --

3 MR. WATSON: Your Honor, he has asked and answered.

4 There is no objection left.

5 JUDGE SMOLEN: Let Counsel say what he wants to  
6 say. Go ahead.

7 MR. SUGARMAN: These hearings were limited to the  
8 issue of effect on my clients by order of Your Honor. It  
9 would have been inappropriate for the witness to have  
10 looked at alternate routes.

11 JUDGE SMOLEN: You can bring that out on redirect  
12 if you want.

13 Let's go to the next question.

14 MR. WATSON: Thank you, Your Honor.

15 BY MR. WATSON:

16 Q. Now, you included Lower Moreland Township in  
17 your land use study?

18 A. Yes.

19 Q. And to Lower Moreland Township in your study  
20 you attributed over the last 40 years an increased  
21 population of over 400 percent?

22 A. Yes.

23 Q. So this is another area that you identified as  
24 having continued urbanization that should be a  
25 significant factor in deciding whether to energize this

1 line?

2 A. Yes.

3 Q. Do you know how large Lower Moreland Township  
4 is in square miles?

5 A. No, I do not.

6 Q. Would you accept subject to check that it is  
7 6.8?

8 JUDGE SMOLEN: 6.8 square miles?

9 MR. WATSON: Yes.

10 A. I have no reason to agree or disagree.

11 BY MR. WATSON:

12 Q. Subject to check.

13 A. Okay.

14 Q. Can you tell us how far down Lower Moreland  
15 Township extends away from the powerline approximately?

16 A. Over two miles.

17 Q. And you included data from -- you included all  
18 population data from Lower Moreland Township whether  
19 adjacent to the line or not in your land use study?

20 A. Yes.

21 Q. Now, let's see if we can simplify this and make  
22 this go faster. For all of the other townships that you  
23 have identified and marked on this exhibit is it fair to  
24 say that you included data on the population growth for  
25 the entire township rather than the portion that is in

1 the vicinity of the powerline itself?

2 A. That's correct.

3 MR. WATSON: Your Honor, I think we can take these  
4 things out of the way because it will make things a  
5 little easier. I don't plan to ask him about these  
6 anymore.

7 JUDGE SMOLEN: Maybe he wants them for redirect.

8 MR. SUGARMAN: I would rather see them stay there.

9 JUDGE SMOLEN: Let them stay.

10 MR. WATSON: Fine.

11 JUDGE SMOLEN: And other Counsel may have questions  
12 as well.

13 MR. SUGARMAN: If I am not mistaken I don't believe  
14 any questions were asked about either of those.

15 JUDGE SMOLEN: Well, you can comment on them. You  
16 already have. If you don't want them up we can take them  
17 down.

18 MR. SUGARMAN: I want them up.

19 MR. WATSON: They are just blocking the view a  
20 little here and I was offering to move them out of  
21 people's view. But if nobody is bothered --

22 JUDGE SMOLEN: Other Counsel may have questions.

23 MR. WATSON: Sure. Okay.

24 BY MR. WATSON:

25 Q. Mr. Turner, at several points in your testimony

1 you discussed what you called disinvestment and effects  
2 on property values, correct?

3 A. Yes.

4 Q. And I believe you state that one of the reasons  
5 that a prudent avoidance approach, as you refer to it, is  
6 appropriate for this line is due to the claimed effect on  
7 property values?

8 A. Property values as reflected in the quality of  
9 life, yes -- and the quality of life.

10 Q. Property values and the quality of life?

11 MR. SUGARMAN: Your Honor, I object. He answered  
12 as reflected in the quality of life.

13 MR. WATSON: I am asking him again to try to figure  
14 out what his answer is, Your Honor.

15 JUDGE SMOLEN: It is cross-examination. Let's go  
16 on.

17 BY MR. WATSON:

18 Q. Is it property values and the quality of life?

19 A. Both.

20 Q. Both. Okay.

21 Now, would it be fair to say that one of the  
22 reasons that you recommended delaying energizing this  
23 line is because of claimed effect on property values?

24 A. Yes. But the delay is part of a more general  
25 philosophy, namely that lines should not be run through

1 populated areas. And that is the general perspective and  
2 fills the prudent avoidance theory. All of the advocates  
3 of prudent avoidance state almost from the very first --

4 MR. WATSON: Your Honor, I am going to move to  
5 strike this. This is not responsive.

6 MR. SUGARMAN: Your Honor, I think it is entirely  
7 responsive.

8 JUDGE SMOLEN: He can't testify as to what all  
9 people said, which is what he stated. All.

10 MR. SUGARMAN: He is citing support and  
11 corroboration for his view. A witness is entitled to do  
12 that, whether or not it is generalized.

13 JUDGE SMOLEN: I guess it goes to the weight of his  
14 testimony.

15 MR. SUGARMAN: It does go to the weight of his  
16 testimony. But his point is that responsible land  
17 planners address themselves to --

18 MR. WATSON: Your Honor, I object to Mr. Sugarman  
19 testifying.

20 JUDGE SMOLEN: Don't testify.

21 MR. SUGARMAN: I am not testifying, Your Honor. I'm  
22 defending the relevance and responsiveness of his answer.

23 JUDGE SMOLEN: I am going to ask the reporter to  
24 read back the question and let's see what the answer is.

25 (Whereupon, the reporter read from the record as

1 follows:

2 A. Yes. But the delay is part of a more  
3 general philosophy, namely that lines should  
4 not be run through populated areas. And that  
5 is the general perspective and fills the  
6 prudent avoidance theory. All of the advocates  
7 of prudent avoidance state almost from the very  
8 first --

9 MR. WATSON: Your Honor, I would submit that he can  
10 give a yes or no.

11 JUDGE SMOLEN: He can.

12 MR. WATSON: After he answered yes, and included  
13 the statement of his philosophy I would move to strike.

14 JUDGE SMOLEN: Starting with the word "all"?

15 MR. WATSON: Yes, because he can't testify to what  
16 all people think or say.

17 JUDGE SMOLEN: Mr. Sugarman, we are dealing now  
18 with a sentence that starts with the word "all".

19 MR. SUGARMAN: Yes, Your Honor. And I am  
20 submitting that it is clearly admissible as part of his  
21 explanation as to why he considers property values to be  
22 part of a larger context.

23 JUDGE SMOLEN: Are you stating for the record that  
24 this witness knows what all planners believe?

25 MR. SUGARMAN: No, Your Honor. No witness knows

1 all. What he is saying is that there is a consensus.

2 JUDGE SMOLEN: He didn't say that. He said all.

3 MR. SUGARMAN: That is the same as saying there's a  
4 consensus.

5 JUDGE SMOLEN: Well, I am not sure it is the same.

6 MR. SUGARMAN: Your Honor, that is a legitimate  
7 subject of follow-up cross-examination.

8 JUDGE SMOLEN: Why don't you follow it up?

9 MR. SUGARMAN: By cross-examination I'm saying.

10 JUDGE SMOLEN: You can follow up on redirect. I am  
11 going to strike the sentence that starts with the word  
12 "all". You can follow up on redirect with consensus, et  
13 cetera. So I'll sustain the objection. Let's go ahead.

14 BY MR. WATSON:

15 Q. Mr. Turner, you are probably tired of hearing  
16 lawyers argue. I will try to focus my questions --

17 MR. SUGARMAN: Your Honor, I object to the  
18 gratuitous comments.

19 MR. WATSON: Your Honor, that is not meant as a  
20 shot at Mr. Sugarman. It applies to all of us.

21 JUDGE SMOLEN: Please, gentlemen, we are sparing  
22 now with words without regard to the issues in the case.  
23 We are wasting stenographer time and paper and  
24 everybody's time. Let's go ahead with cross-examination.

25 BY MR. WATSON:

1 Q. Mr. Turner, are you a licensed real estate  
2 agent?

3 A. No.

4 Q. Are you a licensed real estate broker?

5 A. No.

6 Q. Are you an appraiser?

7 A. No.

8 Q. Have you ever conducted any land appraisal?

9 A. No.

10 Q. Did you conduct any formal appraisal of the  
11 property values for this line?

12 A. No, I did not.

13 Q. Now, I believe you claimed that this line,  
14 energizing this line, will affect property values and  
15 cause disinvestment, is that correct?

16 A. You would have to refer me to the specific  
17 reference where I state that the energizing of the line.

18 Q. Page three, first full paragraph, sentences two  
19 and three plus the footnote on page five, section five,  
20 paragraph two, sentence two, through page six, the end of  
21 section five?

22 A. Can you give me the first reference?

23 Q. Page three, first full paragraph, sentences two  
24 and three plus the footnote.

25 (Witness perusing document.)

1           A. The first full paragraph draws no relationship  
2 between the general information and the specific  
3 energizing of the line.

4           Q. Well, let me ask you this. Irrespective of  
5 what you say in direct -- whether you said it in direct  
6 or not, I guess, is part of the record -- is it your  
7 position that energizing this line will affect property  
8 values and cause disinvestment?

9           A. Yes.

10          Q. Now, when you say disinvestment you are talking  
11 about people who choose to move from their homes?

12          A. More than just choose to move from their homes  
13 but do so under some financial duress.

14          Q. And when you talk about decreased property  
15 values you are talking about a change in the market value  
16 of the property?

17          A. Yes.

18          Q. Now, you understand that the poles for this  
19 powerline already exist on the right-of-way?

20          A. They exist but they have been increased in  
21 height, as I recall.

22          Q. Do you know how much higher they are proposed  
23 to be than they were before?

24          A. I have those figures in my notes. Eight, ten,  
25 15 feet, something in that range, but I don't have my

1 notes.

2 Q. Would it refresh your recollection if I told  
3 you a few feet?

4 A. It was not a gargantuan increase. It was not  
5 that significant. I did visit the site and I saw them.  
6 But I remember it as being more than a few feet. Ten  
7 feet plus or minus, to the best of my recollection.

8 Q. Can we just take that subject to check and what  
9 the record shows.

10 And the policy that were there already had wires on  
11 them?

12 A. At one time they had wires on them. I do not  
13 -- when I visited the site there were wires on them. I  
14 understand them to be the new wires. It is my  
15 understanding that the line had been abandoned for some  
16 period of time. Whether or not the lines themselves, the  
17 wires themselves, had been removed, I have no knowledge  
18 of that.

19 Q. So would it be -- is it correct to say that  
20 basically the poles and wires were -- had been there  
21 since approximately 1938?

22 A. I can't say on a continuous basis. I know that  
23 they were there for the electrified lines, for the rail  
24 lines. But I don't know the history or the near-term  
25 history on their abandonment and whether or not they were

1 used. So I can't ascertain continuous evidence on the  
2 line.

3 Q. But in terms of the stating time, since 1938 or  
4 so?

5 A. I understand it was in the '30s.

6 Q. So when you claim the powerline will affect  
7 property values you are not claiming that the presence of  
8 the poles or wires is going to do that, are you?

9 A. No, I do not claim that. In fact, I did no  
10 research on that particular issue since I felt that since  
11 they had been there that effect had already been  
12 discounted due to the fact that people were living there.

13 Q. So your focus in terms of the effect on  
14 property values is in energizing the line, is that  
15 correct?

16 A. Well, energizing the line as a surrogate of the  
17 fear of electromagnetic fields.

18 Q. And I believe you state in your testimony on  
19 page three, paragraph one, line three -- let me pause and  
20 give you a chance to look.

21 (Witness perusing document.)

22 Q. That the basis for your property value opinion  
23 is your own research and interviews?

24 A. And listening to the testimony of the Applicant  
25 or the Protestants.

1 (Pause.)

2 A. I might suggest -- that would be incorrect.  
3 The basis of it is also reading the literature and the  
4 popular press and the fact that in the literature,  
5 including the annotated bibliography, there appears the  
6 issue of concern by persons adjacent to lines. But the  
7 interviews and the listening to the Protestants was a  
8 method of not correlating but confirming what appears to  
9 me a real fear of this issue.

10 Q. So these are interviews which you are referring  
11 to with members of PAUSE?

12 A. That was part of it. And there were also  
13 interviews -- listening to the testimony. There was also  
14 the reading of the literature, the newspaper articles,  
15 the fact that I had gone through some experiences in both  
16 Phoenixville and Upper Providence Township in Delaware  
17 County where there was considerable concern and there is  
18 considerable concern about the off-site impacts of  
19 electromagnetic fields. So that the conclusion is based  
20 on a significant amount of information in the popular  
21 literature, the review of the scientific literature to  
22 the extent that I can, the Protestant's testimony, the  
23 working in the two communities that I have worked in also  
24 having listened to testimony regarding E/MF in another  
25 case which is currently being pursued in Upper Providence

1 Township, Montgomery County. I can't look to one  
2 particular element that pulls this together. It is a  
3 total, an aggregation, of both the written material and  
4 verbal material that I received over the years.

5 MR. WATSON: Could I ask the reporter to read the  
6 question back, please.

7 (Whereupon, the reporter read from the record as  
8 follows:

9 Q. So these are interviews which you are  
10 referring to with members of PAUSE?

11 BY MR. WATSON:

12 Q. Could you answer that question yes or no? Is  
13 that possible?

14 MR. SUGARMAN: Your Honor, I think he answered it.  
15 He said there are interviews with a lot of different  
16 people and then he went on to say and other sources of  
17 information as well.

18 MR. WATSON: I am just asking if this included  
19 interviews with PAUSE. That's really all I wanted to  
20 know.

21 A. Yes.

22 JUDGE SMOLEN: Well, he has answered yes.

23 MR. WATSON: I move to strike the preceding answer  
24 as not responsive.

25 MR. SUGARMAN: Your Honor --

1 JUDGE SMOLEN: I am going to overrule it. Let's go  
2 to the next question.

3 BY MR. WATSON:

4 Q. Now, is this the same PAUSE that is the PAUSE  
5 organization that has been involved in this proceeding?

6 A. Yes.

7 Q. And so the members of PAUSE expressed concerns  
8 to you about the impact on property values? That is what  
9 you are referring to?

10 A. Primarily health values.

11 Q. Not property values?

12 A. And property values. But the lead-ins are  
13 always in terms of health.

14 Q. Did you do an evaluation of health values?

15 A. I don't know what that means.

16 Q. Well, you took into account property values in  
17 your testimony and based your conclusion in part on an  
18 impact in property values, is that correct?

19 A. Yes.

20 Q. Did you do some independent evaluation of  
21 health values?

22 A. No.

23 MR. SUGARMAN: I object. The witness does not know  
24 what the term means.

25 JUDGE SMOLEN: He answered the question already.

1 MR. WATSON: He just answered the question.

2 JUDGE SMOLEN: He answered in the negative. Next  
3 question.

4 BY MR. WATSON:

5 Q. Now, you were retained by Mr. Sugarman to do an  
6 evaluation of the effect of property values -- the effect  
7 of this line on property values?

8 A. That was not the scope of the assignment. The  
9 assignment was to deal with general land use issues.

10 Q. Did that include property values?

11 A. I don't think it was a specific component. It  
12 was to examine the effect of this line on the profession  
13 of land use planning and on the communities that would be  
14 affected.

15 Q. And you took into account property values?

16 A. Yes.

17 Q. And that included these statements from PAUSE  
18 about their members' views of the impact on property  
19 values?

20 A. Yes.

21 Q. Now, you did some other interviews that you  
22 relied upon for your opinion regarding property values,  
23 correct?

24 A. Yes.

25 Q. And you are asked in interrogatories, in

1 numbers 15(b) and 22(a) -- I will give you a chance to  
2 look at them -- to provide the documents, notes and other  
3 materials that relate to those interviews. Do you recall  
4 that?

5 A. Yes.

6 Q. Did you provide any documents or notes of those  
7 interviews?

8 A. No. They were either by person or by telephone  
9 and I did not prepare notes on those.

10 Q. So you just listed the people you talked to?

11 A. That's correct.

12 Q. And you don't have any record of those  
13 conversations?

14 A. No. I might have in my telephone log but I  
15 don't have any notes on the conversation.

16 Q. Now, would it be fair to describe those  
17 interviews as basically a non-scientific survey?

18 A. I think that is the way I stated in response to  
19 your interrogatory, that it was a non-scientific survey.

20 Q. Now, you also relied upon some research for  
21 your conclusions regarding an impact on property values,  
22 correct?

23 A. Yes.

24 Q. And in interrogatories 15(a), (c), (d) and 22,  
25 you were asked to provide that research?

1 A. Yes.

2 Q. And you gave us a list of references, correct?

3 A. I gave you a list of references but I also gave  
4 you the detail on the references in the annotated  
5 bibliography.

6 Q. And did you prepare that annotated  
7 bibliography?

8 A. It was done in my office under my direction,  
9 yes.

10 Q. Can you tell us who did it?

11 A. One of my staff people did much of it, a  
12 Ms. Sands, Anita Sands, S-a-n-d-s. But I have read all  
13 the material.

14 Q. A Mr. or Ms. Sands?

15 A. Ms.

16 Q. And you have read in full each of the documents  
17 referred to in your annotated bibliography?

18 A. Yes. The documents as sent to you was the  
19 amount of the document we had. In some cases they could  
20 have been abstracts. But all the documents that we sent  
21 to you as the backup to the annotated bibliography were  
22 read by me.

23 Q. Let's take all the documents listed in the  
24 annotated bibliography. Did you read all of those, each  
25 of those documents completely?

1           A. Each of those documents, in some cases they  
2 were abstracts so they were not complete documents. I am  
3 trying to qualify. I read everything that was sent to  
4 you as the backup references in the annotated  
5 bibliography. For instance, if there is a study and  
6 there is a summary of the study, I read the summary of  
7 the study in some cases which was made available to me.  
8 I did not necessarily go back to the original research  
9 document which would have been obviously much longer. So  
10 the reading is a combination of abstracts as well as the  
11 original documents themselves.

12           Q. In your testimony I believe you stated that  
13 what you called initial evidence suggests value  
14 reductions in homes near powerlines of 15 to 25 percent?

15           A. Yes.

16           Q. And in interrogatory 15(d) you were asked to  
17 provide that initial evidence?

18           A. Yes.

19           Q. And in response to that interrogatory you  
20 identified references 15 and 17 from the annotated  
21 bibliography?

22           A. Yes. And it should have also added 22. I have  
23 one copy that says 22. I am not sure if that is correct.  
24 Mine says 22 as well as 15 and 17.

25           Q. So those references provide what you call

1 initial evidence of 15 to 25 percent reduction in  
2 property values?

3 A. Right. Yes. The three, I think, references  
4 included different percentages, five percent, five to 15,  
5 and up to 25 percent.

6 Q. Let's take a look at reference 15. That is a  
7 February, 1991, article from the magazine Right-Of-Way?  
8 Do you have your place there?

9 A. Yes.

10 Q. Now, the magazine article reports on a study by  
11 Kinnard, is that correct?

12 A. Yes.

13 Q. And it says that the study by Kinnard is one of  
14 the best studies?

15 A. You are talking about item 15?

16 Q. Yes.

17 A. The Kinnard study was one of the only studies,  
18 I think, prior to that date that was referenced.

19 Q. And it goes on to say that Kinnard is one of  
20 the most knowledgeable appraisers in the field?

21 A. I don't recollect that but I don't have any  
22 reason to doubt that.

23 Q. Would it be accurate to say that Kinnard found  
24 that there was no negative effect on the value of  
25 property?

1           A. In the preceding study they had done he found  
2 no evidence of negative impacts. That would be reference  
3 16.

4           Q. Well, doesn't it in fact say that in reference  
5 15?

6           A. I would have to go back and read it again. But  
7 I know he did give testimony -- not testimony -- did do a  
8 report prior to that which dealt with that. To the best  
9 of my recollection part of the report did state that  
10 there was no decrease in property values.

11           However, as I qualified this, the issue really --  
12 well, let me withdraw that. Go ahead, sir.

13           Q. So you don't necessarily disagree that the  
14 Kinnard finding that I referred to finding no negative  
15 effect is included in reference 15 which you referred to?

16           A. No, I don't. And I believe we included that in  
17 reference 16.

18           Q. Let's take a look at reference 17, which is an  
19 article from Fortune Magazine. Do you have that  
20 reference?

21           A. Yes, I do.

22           Q. Now, this is the source of the statement in  
23 your testimony that property values could decrease 25  
24 percent after the powerline is energized?

25           A. I believe the word suggests was in that, yes.

1 Q. And that magazine article is about five pages  
2 long?

3 A. Yes.

4 Q. And it has one paragraph on property values in  
5 that five pages?

6 A. Yes.

7 Q. Now, that paragraph basically refers to a  
8 statement by a David Lewis in Houston, Texas, estimating  
9 that houses near transmission lines would drop 25  
10 percent in value?

11 A. Yes.

12 Q. So that is where you got the 25 percent on the  
13 high side?

14 A. Yes. I actually had another reference on that,  
15 but that was a verbal reference and I could not document  
16 it properly.

17 Q. Now, do you know if Mr. Lewis was talking about  
18 a situation where there was an existing public use  
19 corridor such as a railroad or other properties that had  
20 a powerline that was going to be placed in that corridor?

21 A. I did not investigate whether it was comparable  
22 to the existing circumstances.

23 Q. Do you know if Mr. Lewis did an appraisal to  
24 come up with his 25 percent number?

25 A. I do not know.

1 Q. Let's take a look at your reference 22. Do you  
2 have that?

3 A. Yes, I do.

4 Q. This is an article from a trade newspaper  
5 called Realtor News?

6 A. Yes.

7 Q. And does that article say, among other things,  
8 quote, growing concern over a possible link between high  
9 tension powerlines and cancer hasn't yet had any  
10 significant impact on residential markets, close quote?

11 MR. SUGARMAN: Can you tell me where that appears?

12 MR. WATSON: In the article.

13 MR. SUGARMAN: Yes, but where?

14 MR. WATSON: The second paragraph.

15 JUDGE SMOLEN: What is the date of the article?

16 THE WITNESS: The article is dated April 23, 1990.

17 BY MR. WATSON:

18 Q. I am just asking you if the article says that.

19 A. Could you repeat the question?

20 Q. Does the article say, quote, growing concern  
21 over a possible link between high tension powerlines and  
22 cancer hasn't yet had any significant impact on  
23 residential markets, realtors say, close quote?

24 A. Yes, but there is a sentence that follows that.

25 Q. Why don't you read that?

1           A. "But they say buyers in some markets are asking  
2 about powerlines and houses near powerlines in some areas  
3 tend to remain on the market longer."

4           Q. Does this article make any reference to any  
5 appraisal or property value data in the area of the line  
6 involved in this proceeding?

7           A. No.

8           MR. SUGARMAN: In the area of the what?

9           JUDGE SMOLEN: The line involved in this  
10 proceeding.

11          A. No.

12          BY MR. WATSON:

13          Q. Now, let's take a look at your reference seven  
14 that you have about Colwell, is the name, I believe. Do  
15 you have that?

16          A. Yes.

17          Q. That is another one of the articles that you  
18 identified as supporting your opinion on property values?

19          A. It was part of the general bibliography. I  
20 don't think it is precisely supportive to the numbers  
21 that I used in the footnote. I think it was a general  
22 information article which is discussing the issue of  
23 appraisal, electric transmission lines and other  
24 variables.

25          Q. Would you take a look at your interrogatory

1 15(a). Do you have that?

2 A. Yes.

3 Q. Does that ask you to provide the materials that  
4 were referred to in the statement preceding that that  
5 refer to property values?

6 A. Yes, but the paragraph is not that clear. It  
7 says provide all documents, notes and research, reports  
8 and studies and other materials which were involved in my  
9 research. So we included that as just --

10 Q. So you included number seven?

11 A. We included number seven. We had done that as  
12 part of the initial research and we included it in the  
13 annotated bibliography.

14 Q. Are you now saying that it does or does not  
15 support your opinion regarding property values?

16 A. I think it is not conclusive one way or  
17 another. If we look at the quote it says that health  
18 effects have generally not been compensable because there  
19 has been an absence of competent evidence in this regard.  
20 But it brings into the effect that there is a  
21 consciousness about health effects and that it is now  
22 discussable. And we found that the earlier work in the  
23 appraisal field, or appraisal area, I would say prior to  
24 '87 or '88, made no reference to health effects. So we  
25 consider this to be significant because the health

1 effects issue is a new issue and is yet to be  
2 incorporated, I think, into the evaluation of property.

3 Q. What was the date of that article?

4 A. The article is '79.

5 Q. Now, let me refer you to reference 16. Do you  
6 have your place there?

7 A. Yes, I do.

8 Q. And you relied upon this reference for your  
9 views about impact on property values?

10 A. Yes, I did. It was part of the general  
11 research that we had done.

12 Q. Does reference 16 state, quote, the results  
13 indicate that the construction of the high voltage  
14 overhead transmission lines had no perceptible impact on  
15 the market of adjacent real property, close quote?

16 A. To the best of my recollection, Kinnard stated  
17 that there was no effect. We noted that in the  
18 bibliography and as part of the general research, but we  
19 also noted there was no discussion of electromagnetic  
20 fields, which is sort of a dividing line in the  
21 literature.

22 Q. So this article that you relied upon called  
23 Kinnard does not have any discussion of E/MF?

24 A. To the best of my recollection, it does not.

25 Q. So maybe we have some confusion on the article.

1 Is this the same article that has the statement, quote,  
2 the results indicate that the construction of high  
3 voltage overhead transmission lines had no perceptible  
4 impact on the market of adjacent real property?"

5 A. Are you reading from the summary?

6 Q. From the abstract.

7 A. From the abstract?

8 Q. The concluding sentence of the abstract.

9 (Witness perusing document.)

10 Q. I would be happy to show it to you.

11 A. Yes. I think I have it but it would take me  
12 awhile to find it.

13 (Document handed to witness.)

14 Q. Would you just take a look at the abstract and  
15 see if I have correctly read the last sentence of the  
16 abstract?

17 A. Yes.

18 Q. And just for the record, this is the article  
19 that we were talking about, Kinnard?

20 A. Yes.

21 Q. That I believe is your reference number 16?

22 A. Yes.

23 Q. Let me refer you to reference 18. That is an  
24 article from the Chicago Tribune?

25 A. I have it in front of me.

1 Q. Is that correct, this is an article from the  
2 Chicago Tribune?

3 A. Yes.

4 Q. And that is a newspaper of general circulation  
5 in Chicago?

6 A. Yes.

7 Q. And that article does not actually mention  
8 property values, does it?

9 A. It concerns -- it does mention the potential  
10 health risks of magnetic fields and I used that as just  
11 another element of the fact that that is significant in  
12 the way one would view or the way I view values. And it  
13 is clear that what is discussed there is the opposition  
14 to new high voltage powerlines by communities, the  
15 discussions of health of children, the potential health  
16 risks of E/MF and discusses residents living adjacent to  
17 the lines. So it does not mention it specifically in  
18 terms of numbers, in terms of reduction of values, but I  
19 would take this as portraying a community perception of  
20 the health effects, which I regard as quite significant.

21 Q. And do you know if this article was based on a  
22 survey of community perceptions?

23 A. It makes no presumption on having done a  
24 survey.

25 Q. So it is a newspaper writer's information?

1           A. Yes. Which is part of, again, a building block  
2 system of understanding the phenomenon.

3           Q. So the article in fact does not make any  
4 mention of property values?

5           MR. SUGARMAN: I object. Your Honor, this has gone  
6 too far. Mr. Watson is asking the witness whether this  
7 refers to property values. The problem with it is that  
8 it is all in the context of the statement in the  
9 interrogatories which he was asked to document does not  
10 mention property values. It mentions a problem in  
11 selling of residential structures. And he is asking  
12 cross-examination on a statement that was not made. It  
13 is irrelevant and I object to it as irrelevant and  
14 misleading because the reference was provided in response  
15 to the question, "Please provide all documents relied on  
16 my Mr. Turner or his conclusion that, quote, this fear  
17 has led to a problem in the selling of residential  
18 structures within the adjacent area to transmission line  
19 rights-of-way." And Mr. Watson continuously asks him if  
20 it relates to property values; he never said it did.

21           MR. WATSON: Your Honor, I believe if you look at  
22 the interrogatory, which I can furnish, it asks -- it  
23 refers specifically to his statement initial evidence  
24 suggests value reductions in the range of 15 to 25  
25 percent.

1 MR. SUGARMAN: Your Honor, may I show Your Honor  
2 the interrogatory and the response? The interrogatory --

3 JUDGE SMOLEN: I don't have to see it. I am going  
4 to overrule the objection. It is cross-examination. He  
5 can ask the question.

6 MR. WATSON: Thank you.

7 BY MR. WATSON:

8 Q. I think the pending question is simply whether  
9 this article makes any reference to property values.  
10 Just simply that. It either does or doesn't.

11 MR. SUGARMAN: Your Honor, I object to the  
12 argumentation. Your Honor ruled on the objection and --

13 JUDGE SMOLEN: We have a simple question.

14 MR. SUGARMAN: -- Mr. Watson persists in making  
15 arguments along with his questions.

16 JUDGE SMOLEN: There is not a jury here. We have  
17 an Administrative Law Judge who can distinguish between --

18 MR. SUGARMAN: No, but there is an effort to  
19 persuade the witness. There is an effort to influence  
20 the witness.

21 MR. WATSON: Your Honor, with all due respect, I  
22 can't influence this witness. He can testify --

23 MR. SUGARMAN: Mr. Watson has been a member of the  
24 bar too long to expect anybody to believe that kind of  
25 naive statement.

1 JUDGE SMOLEN: Let's stop. We have a question  
2 before the witness, a simple question -- well, it's not a  
3 simple question, it's a question. Let's get an answer.

4 (Witness perusing document.)

5 A. The article itself does not mention, quote,  
6 property values. It does, however, mention all of the  
7 variables that would lead or affect property values, in  
8 my opinion, in relationship to E/MF and transmission  
9 lines.

10 MR. WATSON: Your Honor, at this point we would  
11 move to strike that part of Mr. Turner's testimony that  
12 refers to or relies upon property values and  
13 disinvestment on the grounds that he is not an appraiser.  
14 He has never conducted an appraisal, the statements about  
15 property values here in this case lack foundation, they  
16 don't apply to the property involved here, and he  
17 conducted no appraisal of property values with respect to  
18 the powerline or the property adjacent to the powerline  
19 in this case.

20 JUDGE SMOLEN: When you move to strike those  
21 portions, I want you to be specific as to which  
22 sentences, which paragraphs to which you are referring.

23 MR. WATSON: Yes, Your Honor. I would be happy to.

24 Page three, paragraph one, sentence three,  
25 including the footnotes.

1 JUDGE SMOLEN: Just a minute. Page three,  
2 paragraph one.

3 MR. WATSON: Paragraph one, sentence three.

4 JUDGE SMOLEN: Read the sentence.

5 MR. WATSON: "This fear has led to a problem in the  
6 selling of residential structures within the adjacent  
7 area to transmission line rights-of-way and initial  
8 responses to this issue appear in appraisers' seminars."

9 And then the footnote says, "Initial evidence  
10 suggests value reductions in the range of 15 to 25  
11 percent."

12 JUDGE SMOLEN: It starts with, you said, the third  
13 sentence?

14 MR. WATSON: Yes, Your Honor. It starts with the  
15 word "this".

16 JUDGE SMOLEN: "This fear" or "this uncertainty"?

17 MR. WATSON: "This fear". And it ends with the  
18 word "seminars". And then there is a footnote three.

19 JUDGE SMOLEN: I see.

20 MR. WATSON: And then I have also included the  
21 footnote three for the reasons cited, Your Honor. And  
22 additionally, Your Honor has issued an order that said,  
23 on March 15, that says, "It is noted that further  
24 consideration of alleged decreases in property values  
25 have been held by the Commission to be outside the

1 Commission's jurisdiction."

2 JUDGE SMOLEN: Let's hear Mr. Sugarman. This  
3 sentence and the footnote.

4 MR. WATSON: Your Honor, for whatever it is worth,  
5 I do have more of those. I was just giving you the first  
6 one.

7 JUDGE SMOLEN: Let's take them one at a time.  
8 Go ahead.

9 MR. SUGARMAN: Your Honor, the testimony, what  
10 Mr. Watson is doing is taking out of context a building  
11 block in the witness' ultimate study and opinion. The  
12 witness is a land planner and an architect and has such  
13 has to be concerned about factors that can influence the  
14 character of an area and the quality of life of the  
15 people living in it. That is what a planner and an  
16 architect does.

17 The witness has qualified himself through his  
18 resume. No challenge has been raised to his  
19 qualifications to make that always. I repeat, no  
20 challenge has been raised to his expertise to make that  
21 kind of analysis. In that context, and it is in that  
22 context, the witness has considered the effect on  
23 property values.

24 Your Honor will recall Mr. Watson has not asked him  
25 how he considered the effect on property values in

1 framing his ultimate opinion. His ultimate opinion has  
2 to do, as it indicates, with the effect on the quality of  
3 life in the area and the quality of the residents' life.

4 Mr. Watson is trying to turn this into an opinion  
5 on property values. What the witness is doing is relying  
6 upon a number of factors as he has repeatedly tried to  
7 say, other than the occasions on which Mr. Watson has  
8 confined him, over my objections sometimes, to the  
9 specific question of property values, to the broader  
10 context in which property values are one factor that have  
11 an effect.

12 JUDGE SMOLEN: Let me interrupt and ask. This  
13 witness is not being offered on the question as to  
14 whether or not the fear, any alleged fear, is actual or  
15 not?

16 MR. SUGARMAN: That's correct.

17 JUDGE SMOLEN: But that it is his perception that  
18 from his studies and his work that there is a fear,  
19 whether it is based upon fact or not? Is that what you  
20 are offering this witness for?

21 MR. SUGARMAN: Yes and no. We are not offering him  
22 as a witness as to the effect -- as to the health effects  
23 of electromagnetic fields. We are offering him as a  
24 witness to the fact that there is a general perception  
25 which is not a crazy or frivolous perception --

1 JUDGE SMOLEN: Well --

2 MR. SUGARMAN: May I finish, Your Honor?

3 JUDGE SMOLEN: Yes.

4 MR. SUGARMAN: The OCA's witnesses testified to the  
5 same thing in stating that public policy should be based  
6 on consideration of the fact that in their view the  
7 evidence does not make this a frivolous consideration.

8 What I am saying is the witness is testifying that  
9 the fear is more than subjective from the point of view  
10 -- subjective meaning that it is an unreasonable fear  
11 that some people may hold internally that has no basis in  
12 fact -- from the point of view that as a land planner --  
13 if I were permitted to ask him -- I mean, he says it in  
14 his testimony, but Mr. Watson has not asked him about  
15 that. So therefore Your Honor does not have any way of  
16 knowing what his actual testimony is.

17 JUDGE SMOLEN: Well, you have redirect, an  
18 opportunity at redirect.

19 MR. SUGARMAN: Correct, Your Honor, but Your Honor  
20 is being asked to strike testimony at this time before I  
21 do redirect. So Your Honor is asking me a question about  
22 what his testimony is and the problem is that Mr. Watson  
23 has only chosen to ask him about property values.

24 The direct testimony states that the purpose is to  
25 determine what is the appropriate public policy in the

1 face of uncertainty. That is on page one of his  
2 testimony. He then describes the land use context. He  
3 then describes the scientific evidence and public  
4 perception, the same as the OCA witnesses did, the same  
5 as as the PECO witnesses did, of what is out there, the  
6 same as the Commission has considered in its previous  
7 decision in this case as to what is the degree of reality  
8 to this thing. He is considering it as an input to his  
9 opinion. And he is saying that because there is a  
10 perception out there, because it is backed by substantial  
11 documentation in the public record, that there is a  
12 problem or that there may be a problem --

13 JUDGE SMOLEN: No. I think this witness said it  
14 was inconclusive. I think that is in his opening  
15 statement.

16 MR. SUGARMAN: I agree. Inconclusive. That is why  
17 I said that there may be a problem.

18 And because there is evidence out there that there  
19 may be a problem, because the utilities themselves are  
20 recommending prudent avoidance, that therefore there is  
21 an effect on the quality of life. The way that effect on  
22 the quality of life takes place, among other ways, is  
23 that there is a disinvestment in property. There is  
24 difficulty in selling homes and that is the kind of issue  
25 that a land planner is directly concerned with on a

1 day-to-day basis.

2 He is not being offered for an award of damages of  
3 X-thousands of dollars to any client here. He is not  
4 being offered for the testimony that a house that was  
5 worth \$120,000 before, this X-house, is now worth  
6 \$100,000 or \$50,000 or zero. He is not being offered,  
7 and I made this point before but it is obvious that the  
8 utility does not want it to come in --

9 JUDGE SMOLEN: Make your point.

10 MR. SUGARMAN: That the impact on the quality of  
11 life is measured by what happens to people who want to  
12 move, whether they can move and whether they can move  
13 financially. And that all has to do, and property values  
14 as one of the effects have to do with that and land  
15 planning. If Your Honor --

16 JUDGE SMOLEN: Don't point to evidence.

17 MR. SUGARMAN: There is much more to his testimony.  
18 This is but one component.

19 JUDGE SMOLEN: Let's hear Mr. Watson.

20 MR. WATSON: And, Your Honor, I have not moved to  
21 strike other parts of his testimony. I have moved to  
22 strike those parts that deal with property values.

23 JUDGE SMOLEN: Let's deal with this one.

24 MR. WATSON: He uses references to property values.  
25 The selling of residential structures he refers to, and

1 he refers to value reductions.

2 If it is not a value reduction in property I don't  
3 quite frankly know what it could be and I believe he has  
4 testified that when he's talking value reductions, he is  
5 talking value reduction in property.

6 JUDGE SMOLEN: We heard testimony about value  
7 reduction in possible usage of the property. We heard  
8 testimony from the public witnesses who appeared here.

9 MR. WATSON: I think this witness, though,  
10 testified about value reductions in the property. I  
11 think he made that pretty clear on the record that that  
12 is what he is referring to.

13 In addition, Your Honor --

14 JUDGE SMOLEN: Show me the other sentences.

15 MR. WATSON: Page five, paragraph -- under the  
16 heading five, do you see that there?

17 JUDGE SMOLEN: Yes.

18 MR. WATSON: Go down to the second paragraph.

19 JUDGE SMOLEN: Yes. The perception?

20 MR. WATSON: Beginning with the next sentence, "In  
21 my experience and through interviews it has become clear  
22 that the towers are views as a threatening element in the  
23 live of community residents and has become a cause for  
24 declining values and disinvestment within that  
25 community."

1           And it goes on to say and it continues, "In very  
2 practical terms, the fear created by E/MF's provides  
3 motivation for families to leave their homes and  
4 communities in search of a more safe environment as well  
5 as diminishing the marketability of their units falling  
6 adjacent to the transmission lines, i.e. disinvestment."

7           And then he says, "The possibility of disinvestment is  
8 quite real in my opinion," and he goes on to the end of  
9 the paragraph and through the end of that section five  
10 and refers in the last paragraph there, "high probability  
11 that values will decline."

12           The reference there, Your Honor, is pretty clearly  
13 all the way through, I believe, to property values.

14           MR. SUGARMAN: That is a perfect example. Now at  
15 least Mr. Watson is into the area where there is a  
16 context and it is very clear that this testimony is  
17 totally qualified and totally relevant.

18           Now, Your Honor, I'm not --

19           JUDGE SMOLEN: It may be relevant. The subject  
20 matter may be relevant -- I am not even sure it is  
21 relevant in view of what the Commission has ruled before,  
22 but -- I am going to interrupt you for a minute. This  
23 witness is not qualified, as I understand it, in real  
24 estate appraisal or real estate sales. He has a  
25 different occupation.

1           Now, he says, or the testimony says, "In my  
2 experience and through interviews it has become clear  
3 that the towers are viewed" -- now, are viewed by whom?  
4 I am going to ask that of the witness. Viewed by the  
5 people you have interviewed?

6           THE WITNESS: Yes. As well as in the literature  
7 both in the newspapers --

8           JUDGE SMOLEN: Well, these towers, are they  
9 referred to in literature?

10          THE WITNESS: I think these towers is a very  
11 general statement. It is not grammatically correct. I  
12 believe it is not referring to the specific towers in the  
13 case because I have kept it as a very general position.

14          JUDGE SMOLEN: Well, it says through interviews.  
15 To me that means your interviews. It has become clear  
16 that all towers or some towers or these towers? You say  
17 your interviews.

18          THE WITNESS: These towers are -- the interviews  
19 dealt with transmission line towers, both specifically in  
20 the PAUSE case as well as the real estate persons that I  
21 interviewed. It is a generic framing for transmission  
22 towers, as well as the national literature which accounts  
23 for the public response in opposition to transmission  
24 towers.

25           I wasn't specific to a specific tower on the

1 cut-off. I don't mean to state that. It is a generic  
2 tower concept which referred to these towers. I did not  
3 refer to a tower someplace within this right-of-way I  
4 then -- because the purpose of the whole testimony is to  
5 deal with the fact that there is a general concern about  
6 the effect of towers.

7 JUDGE SMOLEN: Is your testimony that the property  
8 values will decline or that people think they will  
9 decline?

10 THE WITNESS: Both. Because if they think they  
11 will decline and they are motivated by fear they will  
12 tend to sell. And I think it is clear that if buyers  
13 also become aware of electromagnetic field impacts and  
14 the possibility of health impacts, that they will be  
15 looking at these properties in the same way and values  
16 will reduce.

17 We look at environmental check-offs now in the  
18 banking that occurs. We don't find E/MF now but it is my  
19 forecast that the proximity to transmission towers will  
20 soon be built into the review with the constant  
21 increasing perception of the fact that there could be a  
22 problem in electromagnetic field's impact on health.

23 Persons I know read an article --

24 JUDGE SMOLEN: Wait, wait.

25 THE WITNESS: I'm sorry.

1 MR. WATSON: May I respond to this, Your Honor?

2 JUDGE SMOLEN: Well, I think Mr. Sugarman was  
3 still --

4 MR. SUGARMAN: I haven't had a chance to comment on  
5 this objection at all.

6 JUDGE SMOLEN: Go ahead.

7 MR. SUGARMAN: Well, I started, Your Honor. I beg  
8 your pardon. I started and Your Honor wanted to ask  
9 Mr. Turner a question. So I am still in my objection.

10 The point is that Mr. Turner is directing himself  
11 to the Commission's regulation which provides that the  
12 impact of the transmission line on land use is one of the  
13 considerations.

14 JUDGE SMOLEN: On land use?

15 MR. SUGARMAN: Land use.

16 JUDGE SMOLEN: Okay.

17 MR. SUGARMAN: This is the point that I have  
18 continuously tried to make and that the witness' direct  
19 testimony makes. And I would like to read from his  
20 direct testimony which puts into context --

21 JUDGE SMOLEN: Instead of arguing -- I don't want  
22 to interrupt -- argument can come at the end of the case.  
23 Go ahead.

24 MR. SUGARMAN: I am not trying to make an argument  
25 as to the merits. I'm making an argument as to why

1 difficulty in selling houses and/or reduction in value is  
2 relevant to land use. And the statement that the witness  
3 makes is, quote, disinvestment leads to changes in the  
4 land use patterns general associated with higher density  
5 housing, conversions and ultimately as housing of last  
6 resort for persons of moderate or low income."

7 JUDGE SMOLEN: That is a generic sentence. That is  
8 not saying that he believes or that he knows these land  
9 values are going to decrease. He is saying in general  
10 this is what disinvestment is.

11 MR. SUGARMAN: We are turning it upside down. We  
12 recognize, although I think it is wrong, that there is a  
13 perception out there that the Commission does not deal in  
14 loss of property value because it does not make  
15 condemnation damage awards. I am trying to stay away  
16 from appraisers who are going to say this house was worth  
17 \$100,000 before and is worth \$50,000 now.

18 On the other hand, the Commission does deal,  
19 according to the regulations, in the impact on land use.  
20 And where disinvestment and reduction in values and  
21 difficulty in selling houses leads to a boarded-up slum,  
22 that is an impact on land use, that is an impact on  
23 quality of life.

24 Now, in order to get to that a witness has to have  
25 a general perception about whether the existence of a

1 tower with the fear of E/MF leads to disinvestment,  
2 difficulty in selling houses, conversions, reduction in  
3 value. Those all have an effect on land use.

4 JUDGE SMOLEN: Those are hypothetical questions.  
5 If this occurs and if that occurs then there will be an  
6 adverse use of land, rather than his opinion that this  
7 will cause disinvestment. And that is his testimony,  
8 that this will cause disinvestment.

9 MR. SUGARMAN: That's right. That is his  
10 testimony. Because it has been shown that the fear of  
11 E/MF leads among other things -- it is only one of the  
12 factors that he cited -- it leads to longer selling time  
13 for houses, it leads to depreciation in property values,  
14 it leads to people wanting to get out, being unable to  
15 get out, reducing the maintenance of their homes because  
16 they don't want to be there. It leads to all those  
17 things, which leads to an adverse effect on land use, an  
18 adverse on the quality of life for the people, an adverse  
19 effect on the their ability to retire. It leads to all  
20 those things. And it is his opinion that this line among  
21 others, because E/MF generally affects the areas around  
22 them like that, that this line will be so affected also.

23 Now, he's qualified to give that testimony. First  
24 of all, his qualifications to give testimony as to  
25 matters that affect land use has not been challenged. He

1 has not offered to provide a precise monetary  
2 depreciation and so I quite agree that he is not an  
3 appraiser. He has, however -- and this is a point that  
4 Mr. Watson conveniently left out -- in his research he  
5 has interviewed real estate agents and appraisers.

6 JUDGE SMOLEN: That is your redirect.

7 MR. SUGARMAN: Yes, but I can't get to the redirect  
8 if the motion to strike is granted.

9 JUDGE SMOLEN: I haven't ruled yet.

10 MR. SUGARMAN: I know that. But I'm arguing  
11 against the motion to strike because the motion to strike  
12 is being made. It's frivolous, but I have to show Your  
13 Honor all the things that I would show on redirect in  
14 order to forestall that motion.

15 JUDGE SMOLEN: Let Mr. Watson have a chance here.

16 MR. WATSON: Your Honor, I'm not sure Mr. Sugarman  
17 accurately characterizes the direct. I believe the  
18 witness goes through this area and continually says, I  
19 anticipate, I would expect, I anticipate, et cetera. So  
20 he in fact, I think, basically testifies rather  
21 consistently with what he just said and that was -- let  
22 me check the record on this -- he says he's talking about  
23 there is no effect of E/MF but it is a forecast, I  
24 believe is his words just a few moments ago, of what will  
25 happen. So one of the grounds for excluding this

1 testimony is that it is speculative at best.

2 Secondly, the starting premise for all of his  
3 conclusions, despite all of Mr. Sugarman's explanations,  
4 is that there is in fact a drop in property values which  
5 yield disinvestment, which yield other impacts that he  
6 refers to. The difficulty is that that starting premise  
7 is providing, he is attempting to provide himself, which  
8 basically calls for an appraisal of property and whether  
9 in fact there is a drop in market values, he is not an  
10 appraiser. He is not qualified to do appraisals. And  
11 in the material that he has referred to there is no  
12 reference to this line, to the application of any of the  
13 things he has relied upon to this particular line in  
14 question. Thus, there is no foundation for it. That is  
15 understandable in some sense since he is not an  
16 appraiser. There is no appraisal of whether there has  
17 been any drop in property values. So there is in fact  
18 still no foundation whatsoever for his attempting to  
19 insert a drop in property values and referring to that in  
20 this testimony.

21 MR. SUGARMAN: Your Honor, that is a grab bag --  
22 I'm sorry. I thought you were finished.

23 MR. WATSON: Therefore, Your Honor, in addition to  
24 being basically outside the scope of the Commission's  
25 order in this case or an attempt to get it in through the

1 backdoor, I think, which contravenes the order. In fact,  
2 the witness just has no expertise for the statements and  
3 no foundation for the statements.

4 MR. SUGARMAN: Your Honor, that is a grab bag if I  
5 ever heard one. But I have to address every single one  
6 of the points that he made because I don't know which one  
7 might be persuasive with Your Honor. So I'm going to  
8 start.

9 Number one, the witness has expressed the following  
10 opinion on page six of his direct testimony: "In summary,  
11 until the uncertainty and differences of opinion are  
12 settled one way or the other there is a high probability  
13 that values will decline, disinvestment will occur and  
14 changes in land use which are contrary to local policy  
15 and zoning will result in the areas immediately adjacent  
16 to the transmission lines." Now, Mr. Watson claims that  
17 the witness did not say how I characterized his  
18 testimony. That is a direct paraphrase of how I  
19 characterized his testimony. So the witness did give  
20 that opinion. He gave it as a high probability.

21 Now Mr. Watson objects to the concept of predicting  
22 and calls it speculation. We had PECO's witnesses who  
23 came in and predicted what the E/MF levels would be.  
24 That was prediction. We have witnesses all over every  
25 case before this Commission on every certificate of

1 convenience as to what the effects will be, in every rate  
2 case on what the effects on the market will be. If one  
3 could not predict in these proceedings there would be no  
4 Public Utility Commission, there would be no regulation.

5 It's a true grab bag.

6 Now the claim is the witness is not an appraiser.  
7 Agreed the witness is not an appraiser. He is not  
8 offering appraisal testimony. If I have the chance to  
9 ask him on redirect I will establish that it is part of  
10 his business day in and day out, every single day, to  
11 understand the implication on value of different  
12 decisions about land use and that a transmission line is  
13 no different in that respect than a gas station or  
14 anything else that the witness deals with on a daily  
15 basis. Not only that, but he has specifically dealt with  
16 transmission lines in his experience and the effect of  
17 transmission lines on land use and the quality of land  
18 use in the area.

19 There is no basis anywhere in this world to say  
20 that a planner cannot speak about the effect of land use  
21 decisions on other land uses. And the use of value where  
22 it is relevant is something that a planner takes into  
23 account on a day-to-day basis. What is the effect of  
24 putting a bar in the middle of a residential  
25 neighborhood. A planner talks about the effect of that

1 on the quality of the surrounding neighborhood and on the  
2 values. He does not have to be an appraiser to do that.  
3 There isn't a court in this land that limits that kind of  
4 testimony to appraisers.

5 It is clear that this is nothing but a grab  
6 bag and an effort to eliminate testimony despite its  
7 relevance.

8 Now the claim is made that it is beyond the scope  
9 of the Commission's order. The Commission directed that  
10 this proceeding determine whether the residents are  
11 affected and if so how. There is no basis other than  
12 saying it is outside the scope of the order -- it is  
13 another example. He is just picking up every argument.  
14 He goes through the rules or the book of evidence and  
15 makes every objection. I'm surprised he didn't object on  
16 the grounds that the witness wasn't not sworn. I'm  
17 serious, Your Honor.

18 If there is anything that the Commission included  
19 it is the effect on the residents. The witness'  
20 testimony is directly responsive to that issue.

21 I mean, this is a total waste of resources and I  
22 would further say, Your Honor, that it is premature to  
23 the extent Your Honor has any dispute about whether his  
24 qualifications extend to looking at the effect of land  
25 uses on the property selling and property values without

1 making appraisals, to the extent that Your Honor has any  
2 concern about that it should await redirect. To the  
3 extent that Your Honor has any concern about the extent  
4 of the foundation for his opinion it should await  
5 redirect. Mr. Watson has not offered him the opportunity  
6 to describe in detail all of the bases on which he based  
7 his testimony. Instead, Mr. Watson has selectively  
8 selected from interrogatories which were broken down to  
9 parts of a sentence and he was asked, you know, to  
10 provide the basis on which he relied for parts of  
11 sentences. So to then take the question -- so he  
12 provided five references for one part of a sentence, two  
13 references for another part of a sentence and to take  
14 those and say therefore he had no -- whereas the  
15 Applicant had asked additional interrogatories in its  
16 usual exhaustive fashion about just about every sentence  
17 and opinion, Mr. Watson has already conceded that he  
18 discusses the area in several places in his testimony but  
19 has not asked him about all the references he gave. So  
20 to say that there is no foundation --

21 JUDGE SMOLEN: Isn't that what cross-examination  
22 usually is?

23 MR. SUGARMAN: Yes, Your Honor. But this is a  
24 motion to strike and it is a motion to strike based on  
25 lack of foundation where the witness is asked to take

1 this narrow question, what sources did you give in your  
2 interrogatory for that and then say there is no  
3 foundation for any of the testimony in any of this area.  
4 It's not proper to strike a question without an  
5 opportunity for redirect and for the witness to say in  
6 his own words what his full considerations were. Now I  
7 am talking about foundation specifically.

8 JUDGE SMOLEN: Anybody want to say anything else?

9 MR. WATSON: May I respond to that, Your Honor?

10 JUDGE SMOLEN: Yes. Mr. Watson.

11 MR. WATSON: Your Honor, this is a motion to strike  
12 specific portions of the testimony that we referred to.  
13 We have made inquiry of the witness about those portions.  
14 Mr. Sugarman's reference to predictions, et cetera, in  
15 defense of that in his testimony, I would just point  
16 that, yes, prediction does occur but it occurs, Your  
17 Honor, under the rules of the Commission under two  
18 requirements, and that is that the expert be qualified on  
19 the subject on which the expert makes a predict and that  
20 there be a foundation for the expert's prediction and  
21 that the foundation in essence provides both a basis for  
22 the prediction and that that bases is applicable in the  
23 circumstances that are involved in the particular case.

24 Here we have a situation where the witness has  
25 relied upon property values, is not qualified to appraise

1 property values and provided no foundation for any of his  
2 bases for statements about property values.  
3 Consequently, Your Honor, I think the matter is basically  
4 out before you. It is not going to get any better no  
5 matter how much Mr. Sugarman says or whatever he asks.  
6 The witness either has the qualifications or he does not.  
7 And that has been testified to. The foundation is either  
8 there or it isn't, and that has been testified to. And  
9 both of those are lacking.

10 JUDGE SMOLEN: Do you want one last shot?

11 MR. SUGARMAN: I will take one more shot because  
12 the witness has testified that he has the qualifications.  
13 He testified that he uses this data frequently, this type  
14 of data, that he considers the effect of changes in value  
15 as a general proposition on land use, that that is part  
16 of his expertise, his experience and his training on a  
17 daily basis. So he has the qualifications. Mr. Watson  
18 has not even cross-examined him on qualifications. And  
19 of course I have not had an opportunity to redirect in  
20 light of Mr. Watson's challenge to the qualifications.

21 Secondly, it doesn't matter whether the witness --  
22 Mr. Watson cutely puts in a phrase appraised property  
23 values. Well, there are two different things there, and  
24 it is not one. Appraise, we quite agree and we  
25 specifically did not engage an appraiser because we

1 didn't want to challenge the general interpretation,  
2 which I think is wrong, that the Commission shouldn't  
3 look at actual property values. But we had him consider  
4 property values and he has the expertise to consult with  
5 realtors and appraisers to validate and corroborate his  
6 opinion, which he says he did in the questions that  
7 Mr. Watson did not ask him.

8 And as to foundation, I just want to extend that  
9 one step further. He did provide foundation. I mean,  
10 Mr. Watson may not want to hear it but he did provide  
11 foundation in the form of experience, interviews, work in  
12 other places, literature references. He provided plenty  
13 of foundation.

14 Moreover, to the extent that he has additional  
15 foundation, I have not had the opportunity to ask him  
16 about that either because Mr. Watson has not said to him  
17 what is the entire foundation for your opinion. But I  
18 submit that even if he has asked him -- as I say, he  
19 didn't ask him about the interviews that he took, he only  
20 asked him if he had notes of them. He didn't identify  
21 for Your Honor who the interviews were, with real estate  
22 agents and appraisers. The witness clearly did the  
23 research that he deemed necessary to form his opinion  
24 which he gave to this Commission. And as Your Honor has  
25 ruled over and over again in this case and others, the

1 extent to which the foundation is there, even the extent  
2 to which Your Honor can consider challenges to the  
3 expertise, goes to the weight of the evidence. So I  
4 submit there is simply no basis for striking this  
5 evidence at this time.

6 JUDGE SMOLEN: Is that it?

7 MR. WATSON: One minor point. I won't repeat  
8 anything, but there was a reference to what he has done  
9 and gone and talked to real estate brokers and  
10 appraisers.

11 JUDGE SMOLEN: That was Counsel's reference. The  
12 witness didn't say that. He may have done something more  
13 than talked.

14 MR. WATSON: That is just a backdoor way of trying  
15 to get it in. If you can't get it in directly you go  
16 hire somebody to go talk to them.

17 MR. SUGARMAN: We are not trying to get anything in  
18 through them.

19 MR. WATSON: That's what it amounts to.

20 JUDGE SMOLEN: Here is what I have determined to  
21 do. I am going to overrule the motion to strike. Land  
22 value, the testimony of various witnesses are that land  
23 values have an affect on land use. This witness'  
24 testimony includes his consideration of the other  
25 witness' perception of drops in land values and his

1 conclusions, it seems to me, are based at least in part  
2 upon these perceptions of a drop in land value as well as  
3 his other research sources. So based on that I am going  
4 to overrule the motion to strike and let's go ahead.

5 BY MR. WATSON:

6 Q. Now, Mr. Turner, can you tell me do  
7 distribution lines have an impact on land values like  
8 transmission lines?

9 A. I have not seen any literature on distribution  
10 lines. If you mean secondary lines feeding off the main  
11 transformer stations, I have seen little literature on  
12 that in terms of land use concerns.

13 The literature that would deal with land value and  
14 distribution is that in land planning and development we  
15 encourage distribution lines to be buried. And that is  
16 an aesthetic value since we don't want the poles and  
17 lines to be exposed and interfere with the landscape. So  
18 to that extent where in all new developments that I am  
19 aware of transmission lines are being buried, and I am  
20 talking here about distribution level, not the large  
21 transmission towers, I think that has an effect on  
22 quality of life, the landscape and probably values.

23 Q. And the effect from transmission lines such as  
24 the one in question here is the concern about exposure to  
25 magnetic fields?

1           A. That is my concern and that is what I focused  
2 on in this analysis. As I stated earlier, I discounted  
3 the existence of the lines in terms of impact on the  
4 community in that they have been there. I am talking  
5 about the posts have been there and the trains have been  
6 there. So I assumed that that was a given and was not  
7 subject to my review.

8           Q. Distribution lines often run along back yards  
9 and other areas of people's homes, is that correct?

10          A. That's correct.

11          Q. And in fact it's possible, isn't it, that  
12 distribution lines may have higher magnetic field levels  
13 than this transmission line?

14          A. The literature shows that distribution lines  
15 and local sources can have very high values. I didn't  
16 examine the comparison.

17          Q. So you don't know whether they could be higher  
18 or lower than this line?

19          A. Again, I did not examine in detail the values  
20 so I would be hesitant to give testimony on that fact.

21          Q. Now, I believe you also claimed that this  
22 transmission line should be termed a nuisance, is that  
23 correct?

24          A. Yes.

25          Q. Do you mean it should be termed a public

1 nuisance or private nuisance?

2 A. I think both. I am not too sure exactly how to  
3 articulate the two.

4 Q. Tell us the difference between the two.

5 A. Well, I would say that, I would define per  
6 accidens and per se, I guess.

7 JUDGE SMOLEN: I didn't hear the first.

8 THE WITNESS: Per accidens, which is a nuisance  
9 which is a nuisance in a specific context. It is the pig  
10 in a parlor. Versus the per se which is a nuisance under  
11 any circumstances in any location.

12 I don't know if that -- maybe I would ask you to  
13 refine your definitions.

14 BY MR. WATSON:

15 Q. I am just asking when you use the term nuisance  
16 are you referring to a public nuisance or a private  
17 nuisance?

18 A. I only refer to it in the context of this line  
19 being a nuisance to the adjacent property owners and  
20 adjacent land uses. I did not refine it as to whether or  
21 not it could be termed public or private.

22 Q. Do you know the difference between a public  
23 nuisance and a private nuisance?

24 A. I never refined the difference. You would have  
25 to explain that to me.

1 Q. So you made no distinction?

2 A. I made no distinction.

3 Q. And that is because you didn't know the  
4 difference between the two?

5 A. I might have known it in the past. I didn't  
6 really look at it in terms of the context of this  
7 particular study.

8 Q. Under Pennsylvania law isn't it true that an  
9 act cannot constitute a nuisance if it is either  
10 authorized by the Legislature or authorized by an agency  
11 of the Legislature or an agency that has been granted  
12 such authority by the Legislature?

13 A. I'm not familiar with that.

14 Q. You don't know?

15 A. No, I do not.

16 Q. Do you know the elements of a nuisance in the  
17 state of Pennsylvania?

18 A. I only incorporated a general definition of  
19 nuisance in my response. I did not look further than  
20 that.

21 Q. I understand. But do you know the elements of  
22 a nuisance in Pennsylvania?

23 A. No. Well, I say no. I have never read about  
24 it in any detail. Only nuisance in the very general way  
25 as it affects land use planning and the basis of zoning.

1 But the answer is no.

2 Q. So what is your basis for declaring something a  
3 nuisance or not a nuisance?

4 A. The definition that I used in response, namely  
5 that a nuisance is some act on a property or adjacent to  
6 the property that affects the use of the property in  
7 question -- that is a very poor definition. Let me give  
8 you the definition I used in the interrogatories, I  
9 believe.

10 MR. SUGARMAN: Page nine and ten.

11 THE WITNESS: Of the interrogatories?

12 MR. SUGARMAN: Yes.

13 THE WITNESS: Okay.

14 A. On page nine of the interrogatories I state, "A  
15 nuisance is defined as a use of property or course of  
16 conduct that interferes with the legal rights of others  
17 by causing damage, annoyance and inconvenience."

18 BY MR. WATSON:

19 Q. I believe you say there that the terming of the  
20 transmission line as a nuisance is your own opinion based  
21 on the evidence presented of persons adjacent to the line  
22 as well as the following citations?

23 A. Yes.

24 JUDGE SMOLEN: This is from an interrogatory?

25 MR. WATSON: Yes, Your Honor.

1 JUDGE SMOLEN: An answer to an interrogatory?

2 MR. WATSON: Yes, Your Honor.

3 BY MR. WATSON:

4 Q. So we have two elements, evidence presented of  
5 persons adjacent to the line and, secondly, citations  
6 that you list, right?

7 A. Yes. I might say that the citations listed, I  
8 think, dealt essentially -- were not all-inclusive in the  
9 fact they did not include the issue of health effects as  
10 described in the annotated bibliography.

11 Q. In fact, don't the citations you referred to  
12 include seven, 15, 16, 17, 18, and 22?

13 A. That's correct.

14 MR. SUGARMAN: And?

15 MR. WATSON: I said include. I will get to the  
16 others in a minute.

17 MR. SUGARMAN: Did you say and 31?

18 MR. WATSON: No. I said include for the first  
19 list. I will get to the other ones in a minute.

20 BY MR. WATSON:

21 Q. Does it include seven, 15, 16, 17, 18, and 22?

22 A. Yes.

23 Q. As to those, those involved property values?

24 MR. SUGARMAN: Your Honor, I object to that unless  
25 the question clarifies whether those references -- when

1 he says includes property values is he asking whether  
2 that is all they are about or is he asking whether they  
3 include a reference to property values?

4 JUDGE SMOLEN: You have to ask Counsel.

5 MR. SUGARMAN: Well, I'm saying I object to the  
6 question unless the word "include" is defined.

7 MR. WATSON: I am asking if they, the articles,  
8 refer to the subject of property values.

9 MR. SUGARMAN: Again, Your Honor, I think it is  
10 ambiguous as to whether the question is do they refer to  
11 it or is that all they refer to.

12 JUDGE SMOLEN: That is part of your case on  
13 redirect.

14 MR. SUGARMAN: All right.

15 A. The seven, 15, 16, 17, 18, and 22 specifically  
16 referenced property values.

17 BY MR. WATSON:

18 Q. And 31, that is a Law Review article?

19 A. That's correct. It was comprehensive and dealt  
20 with both values, health effects and the law.

21 Q. And I believe you also refer to a zoning  
22 ordinance as well, correct, in your answer?

23 A. Yes. I used that as an example of an ordinance  
24 which establishes nuisance standards within communities.  
25 I used as the example Middletown Township, which is

1 bisected by the proposed line.

2 Q. Are you saying this line should be termed a  
3 nuisance because the zoning ordinance declares it a  
4 nuisance?

5 A. I think we are on the edge of including the  
6 health effects or the possible health effects associated  
7 with E/MF within the zoning ordinances as a nuisance as  
8 an off-site impact. The definition, I referred in this  
9 ordinance to Middletown Township, which says there shall  
10 be no activity which emits dangerous or harmful  
11 radioactivity. Radioactivity obviously is not the case.  
12 There shall be no electrical disturbance adversely  
13 affecting the operation of any equipment beyond the  
14 property line of the creator of some disturbance.

15 Q. Do you know if this line will cause -- do you  
16 have any basis for saying that this line will affect the  
17 operation of equipment beyond the property line?

18 A. I have no basis for that. But I did qualify  
19 this whole nuisance standard discussion, I believe, in  
20 the direct testimony in the fact that there is no  
21 reference in ordinances now to health effects, E/MF, that  
22 I could find in the region. The issue of the health  
23 effects is a relatively new issue within the public  
24 domain and I think I stated in my direct testimony that I  
25 would anticipate that nuisance standards will incorporate

1 the issue of the health effects under health welfare  
2 rubric of the township ordinances.

3 Q. So you are predicting what you think future  
4 ordinances will cover there? That is your qualification?

5 A. Well, it is more that a prediction. It is the  
6 fact that I was contacted by a township that I provide  
7 consulting services to to prepare an ordinance dealing  
8 with the issue of off-site impacts of transmission lines  
9 and radio towers. And I prepared a draft of the  
10 ordinance for their review so it is more than a  
11 prediction. It is in fact.

12 The other issue that I mentioned was the fact that  
13 I had been party to a review of a land development in  
14 Phoenixville Borough where I provide consulting services  
15 where the issue of rights-of-way, E/MF levels at the edge  
16 of the rights-of-way, the positioning of building and  
17 top lots was subject of considerable discussion and  
18 public hearing. So that I don't predict based on coming  
19 together of certain variables. I have seen this in my  
20 own experience. So it is more than a prediction. It is  
21 an extension of my current understanding and experience.

22 Q. And the ordinance I believe you referred to in  
23 your direct testimony is Upper Providence? Is that the  
24 one?

25 A. In Delaware County, yes.

1 Q. That does not deal with transmission lines,  
2 does it? Isn't that radio and television towers?

3 A. Well, it extends to transmission lines. As I  
4 recollect the ordinance, it will deal with both radios  
5 and transmission towers. At least that was the intent of  
6 the township council, that it should include transmission  
7 lines. And I think it specifically mentioned. I might  
8 say this was done as a draft and is subject to  
9 considerable revision and explication by public hearing  
10 and technical review.

11 Q. I think the reference is made there to  
12 transmission towers. That is TV and radio transmission?

13 A. No.

14 Q. No, it's not?

15 A. It's not defined. It has to be defined, but  
16 the intent of the township council was specifically  
17 related to the health effects of transmission towers and  
18 radio towers and transmission lines. And the president  
19 of council spoke to me directly about that.

20 Q. So when it says describe the capacity of the  
21 tower including the number and types of and antennas, can  
22 you tell me how many antennas a powerline would have?

23 A. That specific would not include a transmission  
24 line. If you will let me take one moment, I will  
25 have to define that ordinance.

1 (Witness perusing document.)

2 Q. I have one copy here but I don't have an extra.

3 A. I have it.

4 Q. I thought you would probably have it.

5 (Witness perusing document.)

6 Q. Do you have it?

7 A. Yes.

8 Q. So you are telling us that this ordinance is  
9 not focused on a radio or TV tower that is the subject of  
10 dispute there in that area?

11 A. No, no. Not at all. In this Upper Providence,  
12 Delaware County, there is no dispute on this issue. This  
13 ordinance is an attempt to be comprehensive. As I said,  
14 it was the first draft and lacks some specificity. But  
15 there is no controversy in Upper Providence Township in  
16 regard to radio towers -- Upper Providence Township,  
17 Delaware County. There is one in Upper Providence  
18 Township, Montgomery County, which is the subject of a  
19 controversy.

20 Q. Involving a radio and TV tower?

21 A. A radio station.

22 Q. As far as you know, the FAA, Federal Aviation  
23 Administration, and the FCC, Federal Communications  
24 Commission, and State Aeronautics Division standards are  
25 not applicable to transmission lines?

1           A. I don't think they are. I am really not sure.  
2 They are specifically, obviously, associated with high  
3 radio tower masts. I am not saying they might not apply  
4 to very high electrical towers but I am not sure.

5           Q. They are referred to in these ordinances. That  
6 is why I asked.

7           A. That's correct. And I know precisely how that  
8 had happened.

9           Q. You identified a project, I guess, in one of  
10 your interrogatories, called the Franciscan Health  
11 System?

12          A. Yes.

13          Q. And did you recommend that that project not be  
14 built because of E/MF?

15          A. No.

16          Q. Did you recommend that it be delayed because of  
17 E/MF?

18          A. To add clarity to the situation, this was a  
19 negotiation going on between two parties regarding the  
20 acquisition of a rehabilitation center in Lawrenceville,  
21 New Jersey. We evaluated the zoning of the property in  
22 order to assist one of the parties to establish an asking  
23 price, which we do quite often. We analyzed the property  
24 and noted the fact that there was a transmission line  
25 which was on the border or edge of the property and that

1 in consideration of the fact that there was at that time  
2 a considerable flurry about the issue of health effects  
3 of transmission lines they should examine its  
4 consideration in terms of the future land use, which  
5 deals with its value.

6 We did not recommend one way or another in regards  
7 to the acquisition of the property. We noted for the  
8 owner that the transmission line and what uses could be  
9 permitted under that line and the effects of E/MF should  
10 be noted in the negotiations.

11 Q. No recommendation to them about purchase?

12 A. No. The information was used in the  
13 negotiations between the two parties to establish values,  
14 and one of the values is obviously -- or one of the main  
15 criteria -- one of the main bases of values is the future  
16 land use of the remaining property, and we noted the  
17 presence of that transmission line.

18 Q. And this facility would be adjacent to the  
19 transmission line?

20 A. It's an existing facility which is at some  
21 distance from the transmission line. The issue related  
22 to the land use of the parcel under and adjacent to the  
23 transmission line. New structures, not the old  
24 structure.

25 Q. Now, I believe in your testimony, in one of

1 your headings, under your heading four on page three of  
2 your testimony, there you make reference to the  
3 traditional way of handling off-site E/MF impacts in  
4 township zoning and planning ordinances, is that correct?

5 A. That is what the words say. I mean, that is  
6 what it says.

7 Q. I would like to try to get some understanding  
8 of that. You didn't actually discuss in your testimony  
9 there any zoning or planning ordinances that have been  
10 enacted that regulate E/MF from transmission lines, did  
11 you? Just this proposed ordinance?

12 A. The ordinances, as I stated, did not deal  
13 directly with electromagnetic fields other than  
14 electrical fields that might interfere with the use of  
15 equipment on adjacent properties.

16 Q. So in terms of E/MF that might involve a health  
17 concern, they are not referred to in this --

18 A. That's correct. And I think I state so  
19 directly, that the ordinances to date have only dealt  
20 with radioactive emissions and electrical disturbances  
21 which affect equipment.

22 Q. So would it be fair to say that there really  
23 isn't any traditional way in zoning and planning  
24 ordinances of addressing E/MF health concerns?

25 A. I would say there was no mention of health

1 concerns in that title. I did not mean to mislead  
2 anyone. There was no discussion of health effects in the  
3 title. I meant to refer, and maybe I should have done it  
4 with more clarity, to electrical disturbances which are  
5 included in the traditional nuisance ordinances and  
6 off-site impact ordinances.

7 Q. I think that's fine. I just wanted to get it  
8 clear for the record.

9 So it's your testimony that you anticipate that  
10 off-site impacts of E/MF will fall under local  
11 regulation?

12 A. I'm not making a determination of law here. I  
13 am stating that off-site impacts have been coming into  
14 the planning profession more and more over the last 20 to  
15 25 years and that it is not the on-site use frequently  
16 that is the issue but the secondary and off-site impacts.

17 I anticipate that with this current emphasis and  
18 publicity and research into health impacts of E/MF that  
19 we will see an attempt to regulate on some basis these  
20 off-site impacts and the first indication that I have  
21 seen is in the township.

22 Now, whether that can be done legally on a PUC  
23 regulated function, I don't know. I would suggest that  
24 the townships that I know and the communities that I know  
25 are very concerned with off-site impacts and as the

1 issues of health effects gain more and more prominence,  
2 or until they are settled one way or another, it is my  
3 opinion that the health effects will be incorporated in  
4 the nuisance ordinances or in the performance ordinances  
5 in the communities.

6 Q. Have you done any public opinion survey as to  
7 how people feel in the area about E/MF?

8 A. No.

9 Q. So your information about what you say how  
10 people might feel is based upon the people that you have  
11 talked to?

12 A. Yes, and also the literature. I mean, the fact  
13 is that there is great public awareness that is growing  
14 throughout the entire country and the fact that  
15 powerlines are being contested in a number of venues, and  
16 that there are standards now being applied to E/MF at the  
17 extent of rights-of-way. So that there is a move toward  
18 regulation and I think I have references to that, those  
19 regulations. And I suspect that the local townships --  
20 not that I suspect -- I know that the local townships  
21 will be in that business as this issue gains more and  
22 more notoriety and occupies a prominent place in public  
23 concern.

24 Again, I make no legal determination as to the  
25 purview of the various agencies. I know that in Upper

1 Providence Township, Delaware County they requested that  
2 I prepare that ordinance based on their concern and  
3 reading of the local newspapers and other material.

4 Q. I believe you said you expect that the  
5 regulatory stance of communities will begin to shift the  
6 burden of proof. Page four of your testimony.

7 A. Yes. It is a very difficult issue but in  
8 conditional use procedures, which is used more and more  
9 in townships, the problem of defining a burden of proof  
10 is of great significance and I know that the communities  
11 will attempt to shift that burden of proof on health  
12 effects to the applicants for either towers or  
13 transmission lines. This has generally been the  
14 procedure in most of the environmental ordinances that I  
15 have been involved in, especially where there is  
16 uncertainty.

17 Q. So basically you think that communities will  
18 place the burden on the applicants to prove that there  
19 could not be adverse health effects before granting  
20 approvals?

21 A. Yes. In the lack of any clear standards, I  
22 think that the communities will say we are reading all  
23 this stuff out there -- not that I think they will say,  
24 they have said it to me -- we are concerned, we want to  
25 know. And I think the burden of proof will be placed on

1 the applicants.

2 The Phoenixville issue which came up was a case  
3 where residential structures --

4 MR. WATSON: Your Honor, this is sort of getting  
5 into a soliloquy. I think I can crisply move through  
6 some of this if we can just get the answers.

7 JUDGE SMOLEN: Well, go ahead.

8 BY MR. WATSON:

9 Q. Now, is it your testimony that we may have a  
10 dual system of regulation with regard to E/MF with the  
11 PUC regulating within the right-of-way and the local  
12 zoning boards regulating E/MF beyond the right-of-way?

13 A. I posited that as showing the difficulty of the  
14 problem.

15 Q. Do you think that may occur? Is that what you  
16 are saying?

17 A. I think it is a source of conflict. How that  
18 is going to be resolved, I don't know. I am uncertain as  
19 to how that will be resolved.

20 Q. Is it your testimony that pending such action  
21 by the local zoning boards that the PUC should delay  
22 energizing this line?

23 A. That was not the basis of my opinion on  
24 energizing the line.

25 Q. But is that your opinion? I will ask you now

1 if that is your opinion.

2 A. The basis of non-energizing the line was based  
3 on a more general process and the application of the  
4 theory of prudent avoidance to this line.

5 Q. I understand that. I think I am asking you a  
6 slightly different question, which is is it your opinion  
7 the kind of action that you have referred to by local  
8 zoning boards, and that is regulating E/MF beyond the  
9 edge of the right-of-way, that the PUC should delay  
10 energizing this line until those local zoning boards act  
11 one way or the other?

12 A. No, since the local zoning boards don't have  
13 any standards that would affect the off-site impacts of  
14 this line at this time. I don't read their ordinances as  
15 having any control over the general health and welfare  
16 aspects of the law.

17 Q. So under this dual system of regulation that  
18 you have anticipated would you expect that local zoning  
19 boards could force changes in the design or operation of  
20 the line to meet local zoning regulations?

21 A. Let me be very precise, and I have to go and  
22 read the section again. I speculate that you could have  
23 an unusual circumstances, and this is a quote, where the  
24 areas within the rights-of-way are regulated by the PUC  
25 and the external effects would be regulated by the

1 adjacent and surrounding communities." I see this as a  
2 point of conflict that obviously involves the PUC's  
3 self-regulation of this issue and arriving at some  
4 generally developed understanding and standards that can  
5 be posited by the regulatory agencies and other experts.

6 I think it is the uncertainty that will drive this  
7 issue. And I don't know how this would be done, but it  
8 is my opinion that with the uncertainty that communities  
9 will move toward regulation and that line of conflict  
10 will occur.

11 Q. Do you anticipate that all nine jurisdictions  
12 included in your land use study would have that  
13 authority?

14 A. Like any other land use that occurs locally, I  
15 would assume that they would have those authorities.

16 Again, my response is that the best answer is to  
17 establish standards on a self-regulating basis that are  
18 satisfactory to whatever regulatory agencies, public  
19 involvement, and other input would be required.

20 Q. Do you think the PUC should wait to approve  
21 this line until all nine jurisdictions enact regulations  
22 to regulate E/MF?

23 A. I never made that statement.

24 Q. I know you didn't. I am just asking you if  
25 that is your opinion.

1           A. No. It never entered into the analysis that I  
2 did.

3           Q. Is that your opinion, though?

4           A. No. I would hope that we would not energize  
5 the line for the other reasons that I stated.

6           Q. Well, if any of the local jurisdictions  
7 exercised such authority and placed conditions that were  
8 inconsistent with another local jurisdiction, which one  
9 of those conditions would prevail?

10           A. Well, again, you are asking a legal question on  
11 rights and responsibilities of the utility companies and  
12 the regulatory agency and the rights and responsibilities  
13 of local communities and I really can't give you an  
14 opinion on that.

15           Q. Let me see if I can rephrase it, to not ask a  
16 legal question but to take into account what you have  
17 testified that you anticipate occurring. And that is  
18 this dual system of regulation. I am just asking under  
19 this dual system of regulation how you as a land planner  
20 would resolve conflicts between the various zoning  
21 authorities if they impose inconsistent regulations on  
22 this line or any others.

23           A. Again, I have to come back to the issue, the  
24 fact that it is my opinion that systems like electrical  
25 distribution lines and roads and sewage systems have to

1 have established for them some general standards that can  
2 apply and that are responsible to community welfare and  
3 safety. The local involvement, it is my opinion, will  
4 only occur if that self-regulatory process will not  
5 occur, and then you could have, as in a sense what you  
6 have here, suits coming forth based on the health effects  
7 and the quality of life effects on a very localized  
8 basis. I am not happy with local regulation of  
9 through-systems unless they are based on a generally  
10 accepted group of standards.

11 I don't know if that was an answer. I'm getting a  
12 little tired.

13 JUDGE SMOLEN: Wait a minute. Do you have much  
14 more?

15 MR. WATSON: I have about another hour's worth.

16 JUDGE SMOLEN: Is it appropriate at this point --  
17 it is close to 1:30 -- to give the witness a break and  
18 the reporter as well and break for lunch?

19 MR. WATSON: Yes, Your Honor. I think that would  
20 be appropriate.

21 JUDGE SMOLEN: Is an hour enough? Let's come back  
22 at 2:30.

23 (Whereupon, at 1:30 p.m., the hearing was  
24 adjourned, to be reconvened at 2:30 p.m. this same day.)  
25

## AFTERNOON SESSION

(2:30 p.m.)

1 JUDGE SMOLEN: Back on the record.

2 Further cross-examination.

3 MR. WATSON: Thank you, Your Honor.

4 Whereupon,

5 RONALD C. TURNER

6 having previously been duly sworn, testified further as  
7 follows:

8 CROSS-EXAMINATION (Resumed)

9 BY MR. WATSON:

10 Q. Mr. Turner, I would like to refer you back to  
11 our discussion before the break about local zoning  
12 authority and PUC authority. Based on your experience in  
13 land planning do you think that local zoning authorities  
14 or the PUC would have a better understanding of how to  
15 deal with the E/MF issue?  
16

17 MR. SUGARMAN: I would just like the witness to be  
18 given the option of saying that -- of not accepting  
19 either.  
20

21 MR. WATSON: Your Honor, I am going to object.

22 JUDGE SMOLEN: Don't suggest the answer.

23 MR. SUGARMAN: I object to the question in that it  
24 requires him to adopt one of two alternatives and it  
25 excludes the others.

1 MR. WATSON: Your Honor, he can answer the  
2 question. If he wants to then offer an explanation, as  
3 Your Honor has pointed out, he is an expert witness and  
4 he can certainly --

5 JUDGE SMOLEN: The question has been posed. The  
6 witness can answer if he has an answer.

7 A. Can I qualify the answer before I give it? In  
8 most cases local communities do not have internal to  
9 those communities availability to technical knowledge on  
10 electromagnetic fields and issues related to that. So  
11 that they would have some difficulty in mounting an  
12 understanding of the technical kind of controls necessary  
13 for the issue.

14 Most of the technical expertise lies within the  
15 regulatory agencies and those institutions that are being  
16 regulated. So as a general theory, the knowledge resides  
17 with the central facility -- the central institution --  
18 as a general principle.

19 In response to the question, however, I think we  
20 are at a time of discontinuity where the E/MF issue poses  
21 serious problems for the institutions and PECO and PP&L  
22 and the community and I assume that what this process has  
23 to be is adjudicated through some means ultimately to the  
24 establishment of common standards which can be used by  
25 both the regulatory agencies and the communities

1 ultimately.

2 I think at this time we are at a point where the  
3 values within the regulatory institutions are not being  
4 accepted, obviously, by the Protestants but also I would  
5 suggest in reading the literature that there is a lot of  
6 bubbling going on throughout the entire country on this  
7 issue.

8 I think I answered the question.

9 Q. Are you suggesting that the PUC is not at this  
10 time able to address this issue effectively?

11 A. Well, I can't say that they don't have the  
12 ability to do so. I am not at all concluding that. My  
13 sense is that as there are in other states and other  
14 locations, there are attempts to establish standards for  
15 E/MF. That is obviously being done in New York. It has  
16 been done in Florida. It is being proposed in other  
17 places. And I assume that the process that we are going  
18 through today will ultimately lead to standards being  
19 adopted by the agencies and institutions and regulatory  
20 areas which then are promulgated through all the  
21 communities and are generally accepted by those  
22 communities.

23 Q. You referred to the New York magnetic field  
24 standard in your testimony. You just referred to it,  
25 correct?

1 A. Yes.

2 Q. Let me just show you this and ask you if this  
3 is the standard, the New York standards that you are  
4 referring to.

5 (Witness perusing document.)

6 MR. SUGARMAN: Would you identify the document for  
7 the record, please?

8 MR. WATSON: I am not admitting it, I am just using  
9 it to refresh his recollection.

10 MR. SUGARMAN: No, but you are showing it to him.  
11 Your Honor --

12 JUDGE SMOLEN: What are you showing him?

13 MR. WATSON: I am going to let him say it.

14 JUDGE SMOLEN: Okay.

15 BY MR. WATSON:

16 Q. Can you tell us is this the New York standard?

17 A. I don't know.

18 Q. You don't know?

19 A. I don't know.

20 MR. WATSON: Would you mark this, please, for  
21 identification?

22 MR. SUGARMAN: Can we have identified what we are  
23 marking for identification?

24 MR. WATSON: It is called Electric and Magnetic  
25 Fields. It's Chapter 17-274 of the New York regulations

1 and it is the magnetic field standard.

2 MR. SUGARMAN: Of what agency?

3 MR. WATSON: Of the New York Public Service  
4 Commission. It's in his testimony. He refers to it.

5 JUDGE SMOLEN: I don't know what number to give it  
6 as an exhibit.

7 MR. WATSON: How about Turner Cross Exhibit 1?

8 JUDGE SMOLEN: All right. Turner Cross 1.

9 (Whereupon, the document was marked  
10 as PECO Cross-Exam. Exhibit No.  
Turner-1 for identification.)

11 MR. SUGARMAN: Your Honor, I would just like to  
12 have it noted that this document is not identified as to  
13 whose it is, nor is it identified as to when it was  
14 adopted, if it was adopted or by whom it was adopted.  
15 And I would like to further note that on page 20 the  
16 document states that on or before March 31st of any year  
17 any facility owner that placed in operation a  
18 transmission line shall submit a form from a Florida  
19 registered professional engineer. And as much as New  
20 York admires Florida, I doubt if the New York Public  
21 Service Commission would adopt a standard requiring a  
22 certificate from a Florida register professional  
23 engineer. So I contend that this document -- let me also  
24 say on page 19 it refers to seeking certification of an  
25 electric utility under the provisions of the Florida

1 Electrical Power Plant Citing Act or the Transmission  
2 Line Citing Act, Florida Statutes.

3 MR. WATSON: This is the New York one.

4 MR. SUGARMAN: Is Exhibit Turner Cross No. 1 being  
5 withdrawn?

6 MR. WATSON: Not yet, but I am not doing anything  
7 with it yet.

8 JUDGE SMOLEN: We are wasting a lot of time.

9 MR. WATSON: Just mark the New York one and I will  
10 ask him about the other.

11 JUDGE SMOLEN: Wait a minute.

12 MR. WATSON: I am going to ask him about both. I  
13 handed him the wrong sheet.

14 MR. SUGARMAN: I move to strike the question where  
15 the witness was shown the Florida standard and asked if  
16 it was the New York standard.

17 MR. WATSON: I agree.

18 JUDGE SMOLEN: He said no.

19 MR. WATSON: Yes. I agree with Mr. Sugarman.  
20 Let's strike that question and the answer.

21 JUDGE SMOLEN: By agreement the question and answer  
22 are stricken.

23 We will now have marked for identification as  
24 Turner Cross-Examination Exhibit No. 2 a multipaged  
25 document. Will you please tell us what it is titled?

1 MR. WATSON: This says State of New York Public  
2 Service Commission, Statement of Interim Policy on  
3 Magnetic Fields of Major Electric Transmission  
4 Facilities, issued and effective September 11, 1990.

5 JUDGE SMOLEN: Both are marked for identification  
6 with the numerals previously assigned.

7 (Whereupon, the document was marked  
8 as PECO Cross-Exam. Exhibit No.  
Turner-2 for identification.)

9 MR. SUGARMAN: I would like to just note that this  
10 document includes various documents other than a  
11 statement of policy, including a memo from the staff,  
12 E/MF committee, to the Commission. In total it consists  
13 of approximately 20 some pages.

14 JUDGE SMOLEN: Fine. Let's hear some questions.  
15 Your comments are noted.

16 BY MR. WATSON:

17 Q. Mr. Turner, I hand you a document marked for  
18 identification as Turner Cross-Examination Exhibit No. 2  
19 and ask are those the New York standards you are  
20 referring to in your testimony?

21 (Witness perusing document.)

22 A. I never had a copy of the New York standards.  
23 I only had references to the New York standards  
24 themselves, and some of them were enumerated, I think, in  
25 the readings that I did. But that is about as far as I

1 could go at this point. So I can't really vouch for  
2 that.

3 Q. Would the same be true for the Florida  
4 standards, which are marked PECO Turner Cross Exhibit No.  
5 1?

6 (Witness perusing document.)

7 A. Yes.

8 Q. Would it be accurate to say that in referring  
9 to the New York standard in your testimony you have been  
10 referring to the standard of 200 milligauss for the edge  
11 of the right-of-way?

12 A. I can't say that because I don't remember the  
13 number. I remember reading about the standards and I was  
14 interested in those not in the absolute numbers, of which  
15 I would have little basis for interpretation, but in  
16 terms of the history of the development of the standards  
17 and the research and the fact that -- the reasons that  
18 they were an adopted and the process by which they were  
19 arrived at.

20 Q. And as to the Florida standards that are  
21 referred to in your testimony, would it be accurate to  
22 say that the magnetic field limits at the edge of the  
23 right-of-way under the Florida statute for 230 kV lines  
24 would be 150 milligauss?

25 A. Again, my response is the same as to the New

1 York standards.

2 Q. If you know, is it accurate to say that the  
3 highest calculated magnetic field level for the powerline  
4 in question here is 70 milligauss at the edge of the  
5 right-of-way?

6 A. Again, I have not reviewed that information.  
7 So if it is, it is according to the presentation. But I  
8 have no knowledge of it.

9 Q. Mr. Turner, you don't purport to be an  
10 electrical engineer, correct?

11 A. No, I do not.

12 Q. And therefore -- maybe therefore -- you never  
13 designed a transmission line to transmit 60 hertz power?

14 A. No. I have designed or participated in some  
15 local line design when I was heavily involved in  
16 architecture years ago, but I would say that is 30 years  
17 ago.

18 Q. Now, would it be correct to say that your  
19 position is that the PUC should delay energizing this  
20 line on the grounds of prudent avoidance?'

21 A. Yes.

22 Q. And one of the reasons that you gave to justify  
23 this was that the change to a transmission line of the  
24 size noted within a right-of-way designed for a rail line  
25 is on the face of it unsound without additional evidence?

1 A. Yes.

2 Q. Have you reviewed the testimony of Mr. Ron  
3 Oedemann in this proceeding?

4 A. I reviewed some of the testimony in that  
5 regard, yes.

6 Q. In connection with your architectural design  
7 work, are you familiar with the National Electrical  
8 Safety Code?

9 A. Yes. I'm not familiar with it in detail as I  
10 used to be. But I used to be quite familiar with it.

11 Q. Do you recall from Mr. Oedemann's testimony a  
12 reference to an analysis conducted for this line as to  
13 whether it complies with the National Electrical Safety  
14 Code?

15 A. I believe there was a statement that it did  
16 comply with that code.

17 Q. Have you conducted any analysis to dispute  
18 that?

19 A. No.

20 Q. Do you know whether the PUC has a policy of  
21 preferring dual use of public utility corridors?

22 A. I think recently to my knowledge they have been  
23 acquiring dual use corridors.

24 Q. The PUC has?

25 A. Not the PUC. I am tacking about PECO. I don't

1 know the PUC policy in that regard.

2 Q. Would it also be correct to say that your  
3 testimony is that the line should be delayed until the  
4 science is, quote, clear?

5 A. No. That was not quite my conclusion. My  
6 conclusion was based initially on the fact that the  
7 policy of prudent avoidance states as one of its first  
8 premises avoid running lines through heavily populated  
9 areas, and this line is being run through, in my opinion,  
10 a heavily populated area. So the first notion is don't  
11 run where there is a concentration of population.

12 Q. Between the two points on this map is there a  
13 lessly populated area through which you can run a line?

14 A. I made no study of that in terms of alternative  
15 means of running a line or of the need for the line in  
16 the first place.

17 MR. SUGARMAN: Again, Your Honor, I object to any  
18 questioning in this area because it has been precluded  
19 from --

20 JUDGE SMOLEN: Well, he answered it already. So  
21 let's hear the next question.

22 MR. SUGARMAN: I understand. But note my  
23 objection.

24 JUDGE SMOLEN: All right. It's noted.

25 Next question.

1 BY MR. WATSON:

2 Q. Now your recommendation takes into account the  
3 statement of the E/MF science as it is referred to in  
4 your testimony, that is, beginning on page two, "some  
5 researchers"?

6 A. Yes.

7 JUDGE SMOLEN: Let me interrupt. Before you go on  
8 to your next topic, I want to get some understanding of  
9 the testimony of the witness.

10 It is your testimony that the energization of this  
11 line should be delayed or it should never be energized?

12 THE WITNESS: I can't make the last statement.  
13 Never energized would depend upon the final working out  
14 of the science and the establishment of the standards. I  
15 am only suggesting that it be delayed at this point.

16 JUDGE SMOLEN: For how long? Until when?

17 THE WITNESS: Again, that is a difficult statement.  
18 I have a difficult time responding to that. I think it  
19 is a good question. But I would suggest that until these  
20 issues are properly resolved and standards are set that  
21 the line should not be energized in heavily populated  
22 areas.

23 JUDGE SMOLEN: And that once standards are set it  
24 would be your view that it could be -- a line such as  
25 this could be energized within heavily populated areas?

1 THE WITNESS: If standards are -- if it is within  
2 the standards that are adopted, yes. But as a matter of  
3 principle as to where we are today, utilizing prudent  
4 avoidance, it should not be.

5 JUDGE SMOLEN: Is that on a permanent basis or on a  
6 temporary --

7 THE WITNESS: I would say temporary basis until  
8 there is a reasonable set of standards that are agreed  
9 upon as to whether or not the line as energized falls  
10 within those standards or not. This is a difficult time  
11 and uncertainty. I have no question that there is a lot  
12 of uncertainty. But we need guidelines for action with  
13 that uncertainty present and one of the guidelines I am  
14 suggesting, which also falls within the prudent avoidance  
15 literature, is that lines should be not energized or not  
16 placed in areas where there is a heavy concentration of  
17 population.

18 JUDGE SMOLEN: Even if they fall within the  
19 standards when they are developed?

20 THE WITNESS: No, I didn't say that, sir. You see,  
21 the notion of prudent avoidance really is an interim  
22 policy until there is more certainty. It really is not  
23 -- it is saying, you know, what do you do when you don't  
24 know. So what do you do when you don't know is not to  
25 energize the line, not to turn on certain switches and

1 wait until there is more certainty, and if you have to --

2 JUDGE SMOLEN: More certainty in connection with  
3 what?

4 THE WITNESS: The certainty I am talking about is  
5 in terms of the health effects of electromagnetic fields.  
6 And it is strictly an interim strategy as far as I am  
7 concerned until this issue can be resolved by further  
8 study. It is not a permanent strategy.

9 JUDGE SMOLEN: I'm sorry for interrupting your  
10 cross-examination.

11 BY MR. WATSON:

12 Q. So basically your view of prudent avoidance is  
13 that while there is uncertainty a delay is required, is  
14 that correct?

15 MR. SUGARMAN: While there is uncertainty a delay  
16 is what?

17 JUDGE SMOLEN: Is required.

18 A. I don't use the word required, I think. I  
19 recommend it. I think that is the phrase.

20 BY MR. WATSON:

21 Q. I am not asking what word you are using. I am  
22 asking whether you are saying that the standard of  
23 prudent avoidance requires that lines be delayed while  
24 there is in your view an uncertainty.

25 A. Not all lines. I am just suggesting that lines

1 running in areas of -- within heavily populated areas.

2 Q. Lines that run to -- by heavily populated  
3 areas, you mean areas where there are houses, residences,  
4 things like that?

5 A. Concentration of urban activities, including  
6 residences, factories, parks, schools, other kinds of  
7 facilities, all of the uses that are associated with  
8 urbanization.

9 Q. Where there is, in essence, urban growth, which  
10 is a phrase that you have used before?

11 A. Urban development, yes.

12 Q. Where there is urban development we should not  
13 be putting in lines based on prudent avoidance?

14 A. I didn't say, again carefully, that -- as an  
15 example, the standards of prudent avoidance, the ones  
16 that I use, anyway, is that you route new transmission  
17 lines so that they avoid people, you widen transmission  
18 lines. There are other issues that could be applied,  
19 other policies that could be applied. I think the issue  
20 is opening up new corridors within urbanized areas.

21 Q. If the magnetic fields for distribution lines  
22 are in the same range as transmission lines, would  
23 prudent avoidance in your opinion also require that they  
24 be delayed?

25 A. Taking it one at a time, if the issue of health

1 effects is a conglomeration or an aggregation -- excuse  
2 me -- of various kinds of transmitters and active  
3 sources, and transmission lines, local lines, have to be  
4 dealt with, I would suggest that they be dealt with in  
5 the same way.

6 Q. So in areas of increased urbanization if the  
7 field levels from distribution lines are in the same  
8 range as the field levels from transmission lines, we  
9 should not add distribution lines in those areas or we  
10 should delay adding them?

11 A. I didn't say that. You are throwing in the  
12 issue of equivalent fields, which I really have not dealt  
13 with.

14 From what I read the problem lies in transmission  
15 lines and in distribution lines and in other areas. It's  
16 a multiple system issue. I am only dealing here with the  
17 major transmission lines. And I assume that mitigations,  
18 however, for local distribution lines and other sources  
19 of E/MF could be handled in a different way.

20 Q. Tell us, why do you assume that?

21 A. Well, I am talking about -- we read about the  
22 electric blanket discussion, where now electric blankets  
23 are now coming out for the first time which suppress  
24 fields. They are just coming out on the market. We have  
25 a local mitigation. We have distribution lines that are

1 buried in many new developments that have occurred in the  
2 region, and while burying is not the only answer, and  
3 frequently is not an answer, it at least in some people's  
4 minds does offer an opportunity to reduce electrical  
5 fields if not always magnetic fields.

6 Q. Does it always produce lower magnetic fields?

7 A. No. I said quite specifically that it does not  
8 always affect magnetic fields. It does affect electrical  
9 fields, I believe.

10 I am taking it one at a time and I am not trying to  
11 develop a comprehensive policy here for the handling of  
12 the total E/MF problem. I was specifically focusing on  
13 the major transmission lines and the application of the  
14 policy of prudent avoidance to those lines. I think the  
15 issue is more complicated than the transmission lines. I  
16 would grant that 100 percent. But I am just focusing on  
17 one issue now.

18 Q. Let's focus on the other issue of magnetic  
19 fields from whatever source at a comparable level to  
20 those from this line. Are you suggesting that the  
21 production of magnetic fields from other sources in  
22 urbanized areas should be delayed of this same range,  
23 magnetic fields of the same range?

24 A. In the same range? I really can't make a  
25 judgement on the range factor because there are so many

1 variables that really come into effect. Not only is it  
2 the intensity but the time of exposure and other issues.  
3 And that really is beyond my knowledge or expertise. I  
4 am really dealing with this on a broader land use pattern  
5 which deals with the effects of the major transmission  
6 lines and have not really dealt with the local  
7 distribution lines. My sense is, and this is an  
8 intuitive judgemental sense, is that the local  
9 distribution lines can probably be managed at that scale  
10 in a much more effective way.

11 Q. How?

12 A. By shielding.

13 Q. By shielding? What method of shielding do you  
14 suggest?

15 A. I can't be specific. I know transformers can  
16 be shielded in some cases, that there can be shielding of  
17 local generators of E/MF. But I really can't offer you a  
18 prescription for that. It is just from reading the  
19 literature.

20 Q. What kind of shielding of local generators of  
21 E/MF are you referring to?

22 A. I am talking about motors, refrigerators.

23 Q. I am just talking about powerlines here. Are  
24 you telling us that you have a method for shielding --

25 A. No, I don't have a method. I was very

1 careful in stating that I don't have a prescription for  
2 that.

3 Q. Can you tell me how a transmission line like  
4 this one would be shielded to prevent magnetic fields or  
5 reduce them?

6 A. Well, the reduction in E/MFs, and I have some  
7 diagrams indicating it, is within the local line  
8 configuration, and how the lines are run, whether they  
9 are run in a triangle or a flat bar system, the height of  
10 the tower, the width of the right-of-way, the phasing of  
11 the lines. All of those can contribute to the resultant  
12 E/MF at the right-of-way.

13 Q. Let me ask you this: do you somehow think that  
14 the magnetic fields that might come from a transmission  
15 line are in any way different in kind than the magnetic  
16 fields that might come from a distribution line?

17 A. I have no knowledge of differences.

18 Q. So is that --

19 A. I have no knowledge of the differences. I  
20 really can't state authoritatively other than the phasing  
21 difference that there is any significant difference.

22 Q. Just to be clear, you don't know whether there  
23 are any differences?

24 A. I am only thinking now that the differences  
25 would lie in the amount of power that is being conveyed

1 and the number of phases in the line, whether it is going  
2 from : three phase to a single phase distribution.

3 Q. And single phase distributions don't have the  
4 same cancellation as three phase ones, isn't that  
5 correct?

6 A. That's correct.

7 Q. So you may get higher magnetic fields from  
8 distribution lines, correct?

9 A. You could.

10 Q. I believe you say on page two of your testimony  
11 that, "Some researchers conclude that there is a definite  
12 link between E/MF and health effects."

13 A. Yes.

14 Q. And you were asked in interrogatory 13 to  
15 identify the researchers referred to in this statement.

16 A. Yes.

17 Q. And you responded, I believe, that they are in  
18 your annotated bibliography, references two, three, four,  
19 five, 11, 17, 25 and 31.

20 (Witness perusing document.)

21 A. Yes.

22 Q. I am going to refer you to reference two. It  
23 is an article by someone named Daniel Anna, correct?

24 A. Correct.

25 Q. In what area does he conduct scientific

1 research?

2 A. It's an article in Professional Safety  
3 Magazine. I have no knowledge of his specific expertise  
4 in my mind. I have to look up to the reference itself.  
5 But the article is published in Professional Safety.

6 Q. And so you don't know whether he is a  
7 scientific researcher in any medical discipline involving  
8 E/MF?

9 A. I don't remember. I would have to look that up  
10 and see if I have that.

11 Q. You might look at the article. There is a box  
12 there with his credentials.

13 A. That's right. He was a -- that's correct. Now  
14 I remember.

15 Q. He has a bachelors degree in safety science  
16 from Indiana University?

17 A. That's correct.

18 Q. And he is in graduate school at Texas A&M?

19 A. That's correct.

20 Q. So he is not scientific researcher in any  
21 medical area involving E/MF?

22 A. That's correct. The article was used because  
23 he refers -- there was a good summary of this issue and  
24 it was confirming other reports. In fact the references  
25 that he used, like Savitz and Wertheimer and Leeper, have

1 separate identification in the annotated bibliography.

2 Q. In fact, this article was the winner of an  
3 undergraduate student writing competition, right?

4 A. That's correct. And it was a good article.

5 Q. And Mr. Anna, by the way, in this article does  
6 not conclude that there is a link to health effects, does  
7 he?

8 A. Well, I think he does in a sense he refers to  
9 the Wertheimer and Savitz studies and the studies of  
10 Tomenius.

11 And I would like to clarify what I mean by direct.  
12 Throughout my report I think that was the only place I  
13 used direct. And the word direct was used there in  
14 reference to the epidemiological studies, not in terms of  
15 the other studies that were conducted. In summary, the  
16 epidemiological studies indicated under the circumstances  
17 in relationship to the electromagnetic fields that there  
18 was an increase in leukemia. Now, to me --

19 MR. WATSON: Your Honor, I am going to move to  
20 strike this. He is not qualified to testify on what the  
21 epidemiology shows.

22 MR. SUGARMAN: The statement made in the direct  
23 testimony was, quote, some researchers conclude that  
24 there is a definite link between E/MF and health effects,  
25 end of quote. The witness was asked in interrogatories

1 to identify the researchers referred to in this report.  
2 The witness has stated not -- he did not directly list  
3 the researchers. What he said, was, quote, please refer  
4 to the attached annotated bibliography, references two,  
5 three, four, five, 11, 17, 25 and 31.

6 Now, Mr. Watson is asking him the basis in those  
7 documents for his statement in his direct testimony where  
8 he said some researchers conclude. He is giving the  
9 basis for his statement.

10 JUDGE SMOLEN: Your last answer, does that appear  
11 in this article by the student?

12 MR. WATSON: Your Honor, I would just point out  
13 there is a conclusion in the article. All I am asking is  
14 what did the article conclude that he cited. I am not  
15 asking him to go and testify about the substance of the  
16 article.

17 JUDGE SMOLEN: It seems to me that the objection  
18 goes to the possibility of redirect. He has asked him  
19 what the conclusion of the article is. Do we have an  
20 answer as to what the conclusion of the article is?

21 I don't have these. These are part of  
22 interrogatories, are they not? So I don't have them. I  
23 don't get discovery.

24 So why don't you ask him to read the conclusion if  
25 indeed there is a conclusion paragraph.

1 MR. WATSON: That's fine with me. I would be happy  
2 to have the conclusion, he can read it, he can tell us  
3 what it is.

4 JUDGE SMOLEN: And if Mr. Sugarman wants to bring  
5 out anything else --

6 MR. SUGARMAN: Fine. I think it is a total waste  
7 of time but I understand where you are going.

8 JUDGE SMOLEN: I don't have these papers.

9 MR. SUGARMAN: I understand.

10 A. I have the article in front of me.

11 BY MR. WATSON:

12 Q. Do you have a conclusion on page 42?

13 A. Yes.

14 Q. Why don't you just read the first paragraph?

15 A. "Although none of the links between cancer and low  
16 frequency magnetic fields exposure have been solidly  
17 proven, concern for and general support of the  
18 possibility of a cause-effect relationship has grown."

19 MR. SUGARMAN: And the rest of it?

20 JUDGE SMOLEN: Yes, you can read the rest.

21 THE WITNESS: "Many different studies have lead to  
22 implications of such a relationship, but additional  
23 research is clearly necessary."

24 BY MR. WATSON:

25 Q. And that is the opinion of this author that you

1 are relying upon, right?

2 A. Yes.

3 Q. Now, reference three in your materials is the  
4 report issued by the Congressional Office of Technology  
5 Assessment?

6 A. Yes.

7 Q. And would it be fair to say that that report  
8 also did not conclude that there is a link to health  
9 effects?

10 MR. SUGARMAN: Your Honor, the questions are not  
11 directed towards the direct testimony. The direct  
12 testimony was that some researchers conclude that there  
13 is a direct link. The witness has given, as he said,  
14 survey articles --

15 JUDGE SMOLEN: Wait, wait, Mr. Sugarman. In  
16 support of that sentence wasn't an interrogatory served,  
17 I understand, on what do you base that and the witness  
18 answered these various articles. So he is testing --

19 MR. SUGARMAN: But the articles are not . . . . .  
20 written by researchers. The articles are survey  
21 articles. So it is irrelevant to ask what did the  
22 surveyer conclude. It's what did the surveyer report  
23 about --

24 JUDGE SMOLEN: I am going to overrule the  
25 objection. You can answer the question.

1 A. I have the article in front of me.

2 BY MR. WATSON:

3 Q. Let me try to shorten this some. Let me refer  
4 you to page 76 of the OTA report.

5 JUDGE SMOLEN: What is OTA?

6 MR. WATSON: The one I just referred to in the last  
7 question. The Office of Technology Assessment report.

8 JUDGE SMOLEN: All right.

9 BY MR. WATSON:

10 Q. Do you have that?

11 A. Yes, I do. You said page 76?

12 Q. Yes.

13 Would you go down about five lines and there is a  
14 parenthetical that begins "for simplicity". Do you see  
15 that?

16 A. Yes, I see that.

17 Q. Could you just read us that parenthetical from  
18 the OTA report?

19 A. "Parentheses, for simplicity we will not  
20 continue to say, quote, if any unquote, after each  
21 mention of the word, quote, effects, unquote, in this  
22 discussion. However, readers are reminded that while  
23 biological have been clearly demonstrated the existence  
24 of adverse public health consequences from 60 hertz field  
25 exposure is still an open question. Thus, wherever the

1 word effects appears in this discussion the phrase,  
2 quote, if any, unquote, is implicitly assumed, close  
3 parentheses."

4 Q. Thank you.

5 I believe you also referred to reference four to  
6 support this statement about some researchers?

7 A. Yes.

8 Q. And that is an article from the Chicago  
9 Tribune?

10 A. Yes.

11 Q. And so it's not an article by a scientific  
12 researcher, correct?

13 A. That's correct.

14 Q. Now, reference five is an article from a  
15 publication called Safety and Health?

16 A. Yes.

17 Q. And Safety and Health is a trade journal,  
18 basically?

19 A. I believe so.

20 Q. And the article was written by a reporter, is  
21 that correct?

22 A. Yes, a Mr. Castelli.

23 Q. Right. He is not a scientific researcher in a  
24 medical discipline involving E/MF, correct?

25 A. That's correct.

1 Q. The next source you relied upon was the  
2 Microwave News. That is reference 11. Do you have that?

3 A. I do.

4 Q. Microwave News is also a trade journal?

5 A. I really can't characterize it as a trade  
6 journal because it isn't a trade journal as I normally  
7 see a lot of advertisements and communication. It is a  
8 journal which reports on, quote, non-ionizing radiation,  
9 in this case, and deals with microwave news. Its focus  
10 is on ELF.

11 JUDGE SMOLEN: You said ELF?

12 THE WITNESS: Extremely low frequency.

13 JUDGE SMOLEN: Okay. Go ahead.

14 BY MR. WATSON:

15 Q. Well, do you know if the article which you  
16 referred to in there -- I believe it is on the EPA  
17 report, is that correct?

18 A. Yes.

19 Q. Do you know if that article was written by a  
20 researcher in a medical discipline involved with E/MF?

21 A. I have no knowledge of that.

22 Q. Did you, in relying upon these articles, did  
23 you rely upon the author's analyses of E/MF health  
24 studies, or did you rely upon your own analyses after  
25 reading these articles?

1           A. I am not technically competent to read a  
2 technical article on, let's say, human cell biology or  
3 other matters. In general, I referred to for the  
4 research that I have done on government publications,  
5 such as the Office of Technology Assessment, summary  
6 journal articles by Carnegie-Mellon Institute, other  
7 summary articles as in the Villanova Law Review, and the  
8 aggregation of other public document areas such as  
9 newspaper reviews and articles in journals. That was the  
10 basis of the research and it was focused in that way  
11 because I focused it on the basis of what the general  
12 public might come in contact with as well.

13           Q. So what you are portraying is what you think  
14 the general public might read and you are simply passing  
15 that along to us in this testimony as distinguished from  
16 offering your opinion or somebody else's opinion?

17           A. No. It also reflects my interpretation of the  
18 meaning of the documents that I reviewed and the way I  
19 believe that these documents would affect land use in the  
20 general areas of transmission towers.

21           Q. So are you offering your statements to show  
22 that there are or are not any adverse health effects?

23           A. I will have to answer yes, I am, to the extent  
24 of reading the materials that I have announced in the --  
25 I am not giving you any independent evidence on health

1 effects. That would be absurd. I am stating that some  
2 researchers in the epidemiological studies have indicated  
3 a rise in leukemia under those conditions, under set  
4 conditions. I have also indicated in the direct  
5 testimony that I have written and in the annotated  
6 bibliography clearly where the areas of conflict or lack  
7 of conclusion exist, and they are extensive. And I think  
8 that I have given a reasonable overview of what the  
9 meaning of that research is.

10 Q. When you are saying some researchers have said,  
11 did you examine the actual research articles of those  
12 researchers?

13 A. I wasn't competent -- I read material by  
14 Savitz. I read summaries of the Leeper report but I did  
15 not review the Leeper document, obviously, in its full  
16 report form. I basically have utilized secondary source  
17 information, government publications, EPA publications.  
18 Those are the kinds of material that we would use in land  
19 use planning.

20 Q. So you don't have any independent basis for  
21 reaching a conclusion as to whether or not there are  
22 adverse health effects?

23 A. No independent perspective.

24 Q. And you, I think, said earlier that you are not  
25 qualified to do that?

1 A. I am not a cell scientist, absolutely.

2 Q. My question is and so therefore, as you  
3 indicated earlier, that you are not qualified to render  
4 an opinion on whether there are or are not adverse health  
5 effects?

6 A. Not as an independent scientific source, I  
7 certainly cannot.

8 JUDGE SMOLEN: The witness has been on for about an  
9 hour --

10 THE WITNESS: I'm okay.

11 MR. WATSON: I have a couple of things that I might  
12 cut out, but we are pretty close here, Your Honor.

13 BY MR. WATSON:

14 Q. Now, did you do some work on a project for  
15 Donald Gaster?

16 A. Donald Gaster has been a client of mine.

17 Q. And did you do some work recently on a project  
18 to change the zoning in an area to high density zoning so  
19 that Mr. Gaster could develop high density population  
20 housing?

21 A. You have to be more specific. I have worked  
22 with Mr. Gaster in four different municipalities.

23 Q. Let me ask you this: did you testify in a case  
24 before the Zoning Hearing Board of Concord Township,  
25 Delaware County, in a matter involving Mr. Gaster's

1 application for a change in the zoning to develop high  
2 density housing in June of 1991?

3 A. Yes, I did.

4 Q. Now, that tract of land that was involved there  
5 was bisected by a 230 kV transmission line?

6 A. To the best of my recollection it was bisected  
7 by some transmission line. I don't remember what the  
8 kilovolts was.

9 Q. And you did not in that case mention E/MF in  
10 connection with that 230 kV line in your testimony, did  
11 you?

12 A. No, because I never really dealt with the  
13 property. The testimony that I delivered to Mr. Gaster  
14 dealt strictly strictly with the path of growth, whether  
15 or not Concord Township was going to be subject to  
16 increased urbanization over the next few years and has  
17 been subject to urbanization over the past history. My  
18 testimony specifically excluded any mention or discussion  
19 of the site since I did not participate in the site  
20 development, nor was I involved in any of the  
21 considerations in regards to the site. My subject was  
22 regional housing needs and regional path of growth.

23 Q. And you knew at the time there was a 230 kV  
24 line bisecting this property when you testified, is that  
25 correct?

1           A. I was aware that there was a line on the  
2 property, yes.

3           Q. In this case did you testify in support of or  
4 against the application for high density housing on this  
5 property?

6           A. I did neither.

7           Q. Who called you as a witness?

8           A. I was retained by Mr. Gaster's attorneys, but I  
9 did not deal with the site at all in any of my testimony.  
10 I dealt with regional housing needs and the fact that --  
11 I don't even think my testimony is complete but it will  
12 deal with regional housing needs indicating that there is  
13 a need for low or moderate income housing in the Concord  
14 Township area and that Concord Township is continuing to  
15 be under the influence of growth pressures from the  
16 south, east and west. So I did not support the  
17 application on a site specific level. I am called as a  
18 witness to deal with general regional aspects.

19           Q. Now, I believe you have referred to a  
20 Phoenixville project which you were involved with, and  
21 you referred to that in your testimony?

22           A. Yes.

23           JUDGE SMOLEN: Is that Phoenixville, Pennsylvania?  
24 (Witness nodding head.)

25           MR. WATSON: I would like to have these marked for

1 identification as Turner Cross 3 and 4.

2 (Whereupon, the documents were marked  
3 as PECO Cross-Exam. Exhibits Nos.  
4 Turner-3 and Turner-4 for  
5 identification.)

6 JUDGE SMOLEN: Mr. Sugarman, do you want to take a  
7 look?

8 BY MR. WATSON:

9 Q. Mr. Turner, let me refer you to Turner Cross  
10 Exhibit 3. Can you tell us what this is, if you are  
11 familiar with it?

12 (Witness perusing document.)

13 Q. Well, let me strike that and ask another  
14 question. Is this a map of the Phoenixville project, the  
15 map showing the Phoenixville project on it in yellow?

16 A. Yes. It is an improvement construction plan  
17 prepared by the developer in Phoenixville.

18 Q. Now, I believe in your -- let me ask you about  
19 this other one first.

20 I want to refer you to Turner Cross Exhibit No. 4.  
21 Is that also a map of the Phoenixville project?

22 A. Yes.

23 Q. And the date issued on this one is November 11,  
24 19 -- can you tell what that is? 1990?

25 A. Yes.

Q. And the other one, the other one is issued

1 August 8, 1990? That is Exhibit 3.

2 A. Yes.

3 Q. Can you tell us what this corridor is marked  
4 off in yellow on each side down the middle?

5 A. It's a PECO right-of-way.

6 Q. Now, this is a situation where a land developer  
7 wanted to build houses in an area crossed by an existing  
8 230 kV transmission line?

9 A. Yes.

10 Q. And I believe you have said that the buildings  
11 in this development were set back from the edge of the  
12 right-of-way due to health concerns?

13 A. Yes. I will have to give a little background.

14 Q. Let me just ask you first is my starting  
15 premise correct? Is that what you have said?

16 A. Yes. That was one of the contributing factors  
17 to the manipulation of the buildings on the site. Yes.

18 Q. Do you know how far back from the edge of the  
19 right-of-way those building were set back?

20 A. I don't recollect. I think ten, 15, 20 feet.  
21 As I recollect, the right-of-way was pretty extensive,  
22 too. It was about a 120 or 130 foot right-of-way for a  
23 230 kV line.

24 Q. In connection with this project did you  
25 recommend that the project be delayed due to E/MF?

1 A. No.

2 Q. What was the purpose of -- I see there are four  
3 yellow areas portrayed on both of these maps. I think  
4 they portray the same thing, is that correct?

5 A. Yes.

6 Q. On Exhibit 3 and 4?

7 A. Yes.

8 Q. What were these four yellow areas that we are  
9 referring to, what were they going to be used for?

10 A. Residential units, apartments or townhouses.

11 Q. I believe you also referred in your testimony  
12 when you talked about some researchers, et cetera, have  
13 found or concluded certain things, you make reference to  
14 your reference number 25?

15 A. Are we through with this exhibit?

16 Q. Yes.

17 MR. SUGARMAN: Are you talking about the answers to  
18 interrogatories?

19 MR. WATSON: The same ones as before.

20 A. I have reference 25 in the annotated  
21 bibliography.

22 BY MR. WATSON:

23 Q. And that is a report by the Conservation  
24 Committee of the Pennsylvania House of Representatives,  
25 November, 1990?

1 A. Yes.

2 Q. Did the committee say that because the -- let  
3 me see if I can give you the reference. Page 15.

4 A. I have page 15.

5 Q. Did the committee say there, quote, because the  
6 scientific community does not indicate a clear causal  
7 connection between electromagnetic fields and both  
8 cancers and leukemias, it appears to be premature for  
9 Pennsylvania to label electromagnetic fields as health  
10 hazards without further study"?

11 A. That is what it says.

12 Q. And does the last sentence in the report state,  
13 "At this point it is the sense of the Conservation  
14 Committee that any action beyond research is premature"?

15 A. That is what it says, sir.

16 Q. And this is the report that you cited?

17 A. Yes.

18 MR. WATSON: Your Honor, I would like to move the  
19 admission of the cross-examination exhibits, as well as  
20 the ones that we have called PECO Copy of Turner-1, 2 and  
21 3. So I believe it is those three and Cross-Examination  
22 Exhibits 3 and 4.

23 JUDGE SMOLEN: Not 1 and 2, then?

24 MR. WATSON: I am not sure I asked him about those.

25 JUDGE SMOLEN: Well, you are making the motion for

1 admission.

2 MR. WATSON: I did ask him about them. Those are  
3 the New York on Florida standards. So I move the  
4 admission of all of those.

5 JUDGE SMOLEN: So we are talking about PECO Copies  
6 of Turner Exhibits 1, 2 and 3?

7 MR. WATSON: Yes, Your Honor.

8 JUDGE SMOLEN: And Turner Cross-Examination  
9 Exhibits 1, 2, 3 and 4?

10 MR. WATSON: Yes, Your Honor.

11 JUDGE SMOLEN: And you are moving those for  
12 admission into the record evidence?

13 MR. WATSON: Yes, sir.

14 MR. SUGARMAN: I object to PECO Cross-Examination  
15 Exhibits 1 and 2 because they are not the best evidence.  
16 The best evidence is the exhibits themselves. And while  
17 PECO's Copies 1 and 2 are copies of those exhibits, they  
18 are not as clear as the exhibits themselves and there is  
19 no reason to admit them. They don't show anything that  
20 is not shown on the exhibits. I don't see what they add.  
21 They are not the best evidence. They are not necessary  
22 for anything. When they were put up there, they were put  
23 up there merely for ease of reference. They were not  
24 referred to.

25 MR. WATSON: I think Mr. Sugarman has a good point.

1 I don't know that they add anything. I feel some --  
2 since I made reference to those in the cross, I felt like  
3 I ought to ask that they be included since I referred to  
4 those and not the originals. But if Mr. Sugarman would  
5 like to agree to treat the references to these as the  
6 same as the references to the originals, since they are  
7 copies, I would be happy not to put them in.

8 MR. SUGARMAN: In the case of those two exhibits I  
9 have no problem with it. To the best of my recollection  
10 there was no reference to them.

11 JUDGE SMOLEN: You are withdrawing, then, your  
12 motion with respect to PECO Copy of Turner Exhibits 1 and  
13 2?

14 MR. WATSON: On the conditions that we just agreed  
15 to on the record?

16 JUDGE SMOLEN: That your references to them in your  
17 cross-examination relate directly to Turner Exhibits 1  
18 and 2?

19 MR. WATSON: Yes, Your Honor.

20 JUDGE SMOLEN: All right.

21 MR. SUGARMAN: I have no problem with that.

22 JUDGE SMOLEN: So be it.

23 (Whereupon, the documents marked as  
24 PECO Exhibits Copy of Turner-1 and  
Copy of Turner-2 were withdrawn.)

25 MR. SUGARMAN: Now, Cross-Examination Exhibit 3, I

1 have no objection to its admission, since the witness was  
2 asked questions about it. But I object to it being  
3 admitted as a copy --

4 JUDGE SMOLEN: It was not offered as a copy.

5 MR. WATSON: I didn't offer it as a copy.

6 JUDGE SMOLEN: He moved it directly as PECO --  
7 well, you did refer to it as a copy.

8 MR. WATSON: Originally, Your Honor. But I moved  
9 it because he wrote on it, not as a copy, which it no  
10 longer is. It is now an original document.

11 JUDGE SMOLEN: Then we have two number threes.

12 MR. WATSON: We have a No. 3 and then we have PECO  
13 Copy of No. 3. Maybe we should relabel that PECO Copy of  
14 No. 3 Marked by Witness.

15 MR. SUGARMAN: But that's not correct.

16 JUDGE SMOLEN: We are just playing with words here.  
17 We know the document we are referring to. Let's admit  
18 PECO Copy of Exhibit No. 3 with those three areas not  
19 shown and as drawn on by the Witness Turner.

20 MR. SUGARMAN: Thank you, Your Honor.

21 JUDGE SMOLEN: That is admitted, received in  
22 evidence, as well as Turner Cross-Examination Exhibits 1,  
23 2, 3 and 4.

24

25

1 (Whereupon, the documents marked as  
2 PECO Exhibit Copy of Turner-3 and  
3 PECO Cross-Ex. Exhibits Turner-1, 2,  
4 3 and 4 were received in evidence.)

5 MS. McCLOSKEY: Your Honor, before we conclude, is  
6 it possible for the other parties to get copies of these  
7 exhibits?

8 JUDGE SMOLEN: Well, they have to. The reporter  
9 needs two. I need one. And the other parties need one.  
10 I don't know that they are going to be on cardboard or  
11 rolled up. Either one is suitable. Preferably rolled up  
12 plans because I don't think that is going to fit in my  
13 filing cabinet. Or you can miniaturize them.

14 MR. WATSON: If we could have the permission of the  
15 Court and the agreement of the parties, we will take  
16 these and have them duplicated and provide copies not on  
17 boards, but folded for all parties and of course for Your  
18 Honor. Would that be agreeable?

19 JUDGE SMOLEN: That's fine.

20 MR. WATSON: We will try to do that reasonably  
21 quickly.

22 JUDGE SMOLEN: It is agreeable to me and no Counsel  
23 has objected. I see them nodding their assent.

24 Have you concluded your cross-examination of this  
25 witness?

MR. WATSON: I have, Your Honor.

1 Thank you, Mr. Turner.

2 JUDGE SMOLEN: Let's go around to the other  
3 Counsel. Let's go to Ms. Khanwalkar first.

4 CROSS-EXAMINATION

5 BY MS. KHANWALKAR:

6 Q. Good afternoon, Mr. Turner.

7 A. Good afternoon.

8 Q. Are you a member of PAUSE, Mr. Turner?

9 A. No.

10 Q. Do you own any property near the area that we  
11 are discussing?

12 A. No, I do not.

13 Q. You testified that there was -- there was  
14 supplemental testimony that you put in this morning  
15 regarding the Pennsylvania Planning Association's annual  
16 conference, and you testified that at that conference  
17 there was a PUC official that gave a presentation. Would  
18 you know which PUC official?

19 A. I have it in the notes if I can find the notes.  
20 Since, as I said, I was not present, I had a staff person  
21 present.

22 (Witness perusing document.)

23 A. Ms. Tinku.

24 Q. That is me.

25 A. I'm sorry.

1 Q. There was no PUC official. So I was wondering  
2 if there was something you knew --

3 A. Okay. It is noted as the final speaker was a  
4 representative from the PUC, Ms. Tinku. Is that correct?

5 Q. That is incorrect, then. There was no PUC  
6 official.

7 A. In the introduction to the conference they  
8 listed it as a PUC official.

9 Q. Do you know how many planners attended that  
10 conference -- let me rephrase that. How many of the  
11 planners attended the presentation on E/MF?

12 A. No, I do not.

13 Q. Or how many were present at that conference?

14 A. No. These are not my notes. I wasn't at the  
15 conference.

16 Q. So you are not aware of whether the attendees  
17 at that conference, whether there were many or few or  
18 whether there was any interest displayed by the attendees  
19 or by the number of people attending?

20 A. I have no information on that.

21 MS. KHANWALKAR: I have no further questions.

22 JUDGE SMOLEN: Law Bureau.

23 MS. BURKET: Thank you.

24

25

## CROSS-EXAMINATION

1  
2 BY MS. BURKET:

3 Q. Hello, Mr. Turner. Long time no see.

4 A. Hello.

5 Q. I have a couple of questions about your  
6 annotated bibliography. Specifically would you agree  
7 with me there are a number of your references that were  
8 not annotated?

9 A. There were some that were not annotated.  
10 Especially where they were abstracts only we did not  
11 annotate.

12 Q. Is that the only reason why you didn't annotate  
13 these references? I refer you to number 14.

14 (Witness perusing document.)

15 A. If you will wait one moment I will have to look  
16 at the reference.

17 (Witness perusing document.)

18 A. To the best of my recollection, and there are  
19 notes on the margin of this, the material that was  
20 referred to in that article was very similar to the other  
21 material. It dealt with the Carnegie-Mellon report and  
22 other material. I don't think there were any significant  
23 differences in the inclusions in that article compared to  
24 the other articles that we used. Other than that, I  
25 can't think of any other standard that we used for not

1 annotating.

2 Q. I see. And then there is another one, number  
3 20, reference 20, that was not annotated.

4 (Witness perusing document.)

5 A. I can't answer that question because I have no  
6 document in number 20 and I don't recollect exactly why  
7 that was not annotated.

8 Q. You did read that article, though?

9 A. As I sit here, I don't remember, Ma'am.

10 Q. Number 29 has not been annotated.

11 JUDGE SMOLEN: From what are you reading?

12 MS. BURKET: The annotated bibliography. I don't  
13 know if you have that.

14 JUDGE SMOLEN: Which appears where?

15 MS. BURKET: It was my understanding this morning,  
16 and Mr. Sugarman will correct me if I am wrong, I got  
17 this through some of the interrogatories.

18 JUDGE SMOLEN: It's an interrogatory response?

19 MS. BURKET: Yes.

20 JUDGE SMOLEN: I don't have it, then.

21 MR. SUGARMAN: Your Honor, this is the document.

22 JUDGE SMOLEN: I don't want it. I don't get  
23 interrogatories.

24 MR. SUGARMAN: This was deferred, if you remember,  
25 at the beginning of the day when we got into the fact

1 that there were what he referred to in his testimony as  
2 -- his prepared testimony -- as supplements.

3 JUDGE SMOLEN: It's one of the supplements?

4 MR. SUGARMAN: This is the one, number three.

5 JUDGE SMOLEN: The bibliography that you were going  
6 to supply.

7 MR. SUGARMAN: I couldn't find it at the time. I  
8 now have it and I would be happy to provide a copy to  
9 Your Honor.

10 JUDGE SMOLEN: In that case I'll take a copy.

11 MR. WATSON: Your Honor, we object to it coming in  
12 as an annotated bibliography entirely. This is simply an  
13 answer to the discovery request. He has a bibliography  
14 attached to the testimony. This is not the same thing.

15 JUDGE SMOLEN: There is a bibliography attached?

16 MR. WATSON: Yes. And that's what came in.

17 JUDGE SMOLEN: Where is the bibliography attached?

18 MR. WATSON: I'm sorry. I am wrong on that, Your  
19 Honor.

20 JUDGE SMOLEN: Everybody makes a reference to some  
21 number in a bibliography.

22 MR. SUGARMAN: There is no bibliography attached,  
23 Your Honor.

24 JUDGE SMOLEN: So this is the bibliography?

25 MR. SUGARMAN: Yes, Your Honor.

1 MR. WATSON: I think the way it happened is it was  
2 supposed to be attached, it was not, we asked for it in  
3 interrogatories and that's --

4 JUDGE SMOLEN: Then this is the bibliography.

5 MR. WATSON: Your Honor, we have no objection to  
6 the listing but we do object to the annotations on the  
7 grounds that the witness testified he is not an expert in  
8 the field.

9 JUDGE SMOLEN: When you say annotations, to me an  
10 annotation means something else in a legal sense. What  
11 are you referring to?

12 MR. WATSON: Things other than the title of the  
13 article, the author and the date, where he has excerpted  
14 certain portions of the article, made statements about  
15 certain portions of the article. He has testified -- he  
16 has basically selectively included what he wants to  
17 include and he has testified he has no scientific  
18 training in that area. He has testified that he has not  
19 even read all the articles completely. Even if he did,  
20 he said he had no basis for evaluating them. He is  
21 simple selectively including materials, excerpts from the  
22 articles. We have no representation that they are --

23 JUDGE SMOLEN: Did you prepare these comments about  
24 these various references?

25 THE WITNESS: They were done under my direction,

1 yes.

2 MR. SUGARMAN: Your Honor, I think I can make this  
3 a little easier.

4 JUDGE SMOLEN: Go ahead.

5 MR. SUGARMAN: We are not offering the statements  
6 in the annotated bibliography as evidence either of the  
7 conclusions that the authors are paraphrased to have  
8 reached or as proof that that is the contents of the  
9 article. They are only being offered as the hearsay that  
10 the witness considered in reaching his opinions. I think  
11 that may solve the problem.

12 JUDGE SMOLEN: Well, I'm not sure that it does.  
13 Let's hear what Mr. Watson has to say.

14 MR. WATSON: Well, I think Mr. Sugarman has gone a  
15 pretty good distance in solving the problem, I must say.  
16 I would simply suggest, Your Honor, that that being the  
17 case, that they supply in lieu of this material the list  
18 of the articles cited.

19 JUDGE SMOLEN: We have a list of the articles. You  
20 mean the actual articles?

21 MR. WATSON: No. Just the list without the  
22 annotations.

23 MR. SUGARMAN: I do think the annotations are  
24 entitled to consideration and they have been  
25 cross-examined in some detail as the hearsay that the

1 witness considered, not to qualify the -- perhaps as an  
2 extension of his research, as in the nature of research  
3 notes and nothing more than that.

4 JUDGE SMOLEN: I am not going to permit them in.  
5 You can have the bibliography, but not these notes which  
6 this witness didn't do, that someone else did, that  
7 someone else is not here.

8 MR. SUGARMAN: Fine. May I then have leave to  
9 substitute a bibliography?

10 JUDGE SMOLEN: Absolutely. This would be for  
11 number one through 32?

12 MR. SUGARMAN: Yes.

13 JUDGE SMOLEN: And you will supply that to all  
14 parties and to the reporter?

15 MR. SUGARMAN: Yes, I will.

16 JUDGE SMOLEN: Now, we are still with Law Bureau.

17 MS. BURKET: Yes. In view of that ruling I don't  
18 have any other questions, Your Honor.

19 JUDGE SMOLEN: OCA.

20 MS. McCLOSKEY: We have no questions, Your Honor.

21 JUDGE SMOLEN: This might be an appropriate time  
22 for the witness to have a break. It is five of four.  
23 Let's take a ten minute break.

24 (Recess.)

25 JUDGE SMOLEN: Back on the record.

1 Redirect.

2 MR. SUGARMAN: Thank you, Your Honor.

3 REDIRECT EXAMINATION

4 BY MR. SUGARMAN:

5 Q. Mr. Turner, you were asked a bunch of questions  
6 by Mr. Watson relating to property values. Would you  
7 describe, first of all, your conclusion with respect to  
8 the effects of this, quote, proposed line, and secondly,  
9 the factors and the analysis that led you to your  
10 conclusion and how property values did figure in that and  
11 how it didn't figure in that?

12 MR. WATSON: Your Honor, I believe that might be  
13 fairly characterized as a compound question, if not  
14 calling for an entire speech.

15 JUDGE SMOLEN: One question at a time.

16 BY MR. SUGARMAN:

17 Q. Would you characterize, first of all, what your  
18 conclusion was as to the effect of this line?

19 A. My conclusion was that the energizing of this  
20 line given public perception of the health effects of  
21 that line would cause a diminution of the values of the  
22 real estate and diminution of the quality of life of  
23 persons living adjacent to the line.

24 Q. How did the considerations of diminution of  
25 property value figure into your conclusions as to the

1 quality of life and how did they not figure in?

2 A. Well, they obviously are strongly related. In  
3 essence, in persons living adjacent to a line and given  
4 the fear, which in my opinion is a reasonable fear, of  
5 the health effects of the line, that they would want to  
6 move away and that they would move away in order to  
7 remove themselves from the line and in doing so would  
8 accept a lower value. It is also my opinion that people  
9 purchasing adjacent to the line, and again, based to a  
10 great extent on public perception of the health effects,  
11 would also be impacted in that they would consider values  
12 to be lower and they would make lower offers for that  
13 property.

14 MR. WATSON: Your Honor, I would move to strike  
15 that. That is classic appraisers testimony. He has no  
16 basis for saying that. He has not conducted an appraisal  
17 of this property, any of the property in question, and  
18 that I think crosses the line of calling this some kind  
19 of community values and talking about what people will do  
20 in purchasing property. That is what appraisers do. It  
21 is classic testimony in a condemnation case.

22 MR. SUGARMAN: I will relate it to his testimony,  
23 to his background and experience and qualifications and  
24 the kind of analysis this he does on a day in and day out  
25 basis. That will be my next question.

1 JUDGE SMOLEN: Then I won't rule on it yet. But  
2 don't let me not rule on it.

3 MR. WATSON: It would be my own fault.

4 JUDGE SMOLEN: Go ahead.

5 BY MR. SUGARMAN:

6 Q. Would you describe, Mr. Turner, how your  
7 background and your work in the past and at the present  
8 relates to the analysis that you made, including the  
9 analysis of the consequences of people's perceptions? In  
10 other words, how do you get into this subject and how  
11 does your education and training relate to this subject?

12 A. I get into this subject, as you say, almost  
13 every day. We have produced reports for private clients  
14 dealing with the use of land. And the use of land is a  
15 determinant of value of land and obviously a relationship  
16 to the return and profit that can be gained from that  
17 land. So we are constantly dealing with appropriate  
18 disposition of land uses with both private clients and  
19 public clients based on the planning discipline which  
20 over the years has examined the impacts and effects and  
21 relationship between various land use classifications and  
22 various land uses in general.

23 Q. By way of illustration have you ever had  
24 occasion to review the effects of other types of specific  
25 types of land uses such as quarries and landfills and the

1 like on land use?

2 A. I have done so as a municipal planner where we  
3 have examined, in Phoenixville especially, where we have  
4 landfill operations that have existed historically and we  
5 have discussed what land uses could occur on and adjacent  
6 to those landfills.

7 Q. Is that something that planners regularly do?

8 A. Yes, we deal with impacts of land uses on  
9 adjacent land uses and community-wide.

10 Q. And from the point of view of the planning  
11 discipline, how does the effect of a land use such as a  
12 landfill or a highway or any other particular use, a  
13 quarry, how does that influence and how is that utilized,  
14 how does that become material that you use in your  
15 planning?

16 (Pause.)

17 Q. Let me ask it a different way. How does the  
18 impact on value relate to your planning function?

19 A. There is within the planning profession notions  
20 and normative understandings of values and land uses. So  
21 that in communities we have a pretty good idea of what  
22 the land values are, what they cost per lot or what they  
23 cost per front foot or whatever it might be. When we  
24 examine the disposition of land uses we are aware of the  
25 impacts and shifts in those values as we make the

1 determinations of appropriate land uses.

2 In the case of land uses such as utilities or  
3 industrial uses, we immediately understand the impact on  
4 residential uses with which they would be normally  
5 incompatible because of different attributes. What we do  
6 in recognizing those differences and the effects on  
7 values is we use buffers, setbacks, other kinds of  
8 mitigative approaches, to avoid impacting negatively. An  
9 example would be a shopping center which is placed next  
10 to a residential zone. We will look for ways of  
11 mitigating the influence of that commercial zone on the  
12 residential uses proposed and existing at the perimeter.

13 So that we are constantly dealing with the line of  
14 land uses and the effect of one land use on another.

15 Q. Have you had occasion to write land development  
16 ordinances?

17 A. Yes.

18 Q. In connection with that, do you make  
19 determinations and use those determinations with respect  
20 to land values in terms of classifying uses and writing  
21 regulations?

22 A. Yes. Because essentially within the land use  
23 classification system is the system of community values  
24 and worth. We don't always deal with numbers, with  
25 specific number values, but we are always conscious of

1 the effect on land values of the various land uses that  
2 are proposed and disposed of and distributed.

3 Q. Have you had occasion to write or evaluate  
4 zoning ordinances?

5 A. Yes.

6 Q. And in connection with zoning ordinances do you  
7 determine and consider and take into account the effect  
8 of different zoning classifications and existing uses in  
9 zoning on land values?

10 A. Yes. And I say again, it is not always a value  
11 in the sense of specific dollar amounts, it is value in a  
12 general way.

13 And again, I refer to the fact that as we go  
14 through the various land use classifications in  
15 preparation of zoning ordinances, we always look on ways  
16 to mitigate or deal with differences in uses in order to  
17 avoid impacts on value and slash quality of life.

18 Q. In the case of this particular proceeding, now,  
19 where the Commission's regulations call for the  
20 assessment and determination and consideration of the  
21 effect of the proposed project on land use, can you  
22 describe to His Honor how you utilize land values in  
23 evaluating and reaching your opinion that you reached on  
24 the question of land use?

25 A. My first conclusion based on the evidence that

1 I heard from the residents and the general literature is  
2 that electromagnetic health effects are within the public  
3 understanding and public perception and have, in the case  
4 of this case and in general, produced strong effects  
5 within populations, or specifically this population and  
6 in general reading the literature within other  
7 populations as well. Therefore, it is my conclusion that  
8 this land use is considered by the persons adjacent to  
9 that land use to be onerous and an interference and a  
10 nuisance in terms of their gainful use of the property  
11 based on the fact that they cannot mitigate the  
12 perception at this time and fear of that land use. My  
13 experience tells me that the choices are limited and  
14 therefore some form of disinvestment will occur.

15 Disinvestment is a pattern of economic behavior  
16 which is based on trying to optimize ones lifestyle and  
17 in cases where there are onerous land uses or disturbing  
18 nuisances in that environment, people will attempt to  
19 move.

20 Q. And did you use --

21 MR. WATSON: Your Honor, before we go on, I would  
22 like to move to strike that portion of his answer that  
23 deals with statements about what E/MF produces or does  
24 not produce. I think the witness has already said that  
25 he is not capable of testifying to the substance of that.

1 Mr. Sugarman, I think said that, and I would like to --

2 JUDGE SMOLEN: Let me interrupt you. This witness  
3 is really testifying not as to the health effects but as  
4 to the way people perceive E/MF. Whether or not it has  
5 health effects, that is scientists. But he is testifying  
6 as to the way people perceive it, as I understand his  
7 testimony. And as a result of that perception, correct  
8 or incorrect, his conclusions are as he testified.

9 MR. WATSON: Your Honor, that is my understanding  
10 as well and if his references to what E/MF produces are  
11 all put in the context you just described and they are  
12 agreed that that is the context in which they are put and  
13 they cannot be cited for the substance of what they say,  
14 then I would not have a further objection on that point.  
15 My concern is that if I don't raise it when he makes some  
16 statement about it it may appear that I'm passing on it  
17 and I am not following in essence the understanding that  
18 you just described.

19 JUDGE SMOLEN: Let me ask Mr. Sugarman.

20 MR. SUGARMAN: This witness has not offered himself  
21 and I don't offer him and he is not in any position to  
22 evaluate the validity of the concerns. All he is able to  
23 say is that it is out there in the literature, it's not  
24 crazy people running down the street and waving placards  
25 but it's out there in the literature and it therefore has

1 an effect on people's perceptions.

2 JUDGE SMOLEN: So the testimony is based on  
3 perceptions of the way people react to the line?

4 THE WITNESS: That's correct.

5 JUDGE SMOLEN: Whether it is correct or incorrect,  
6 people perceive it that way?

7 THE WITNESS: That's correct. The purpose of  
8 introducing the literature, if I may, is that the  
9 perception is not unreasonable, that there is a depth --

10 JUDGE SMOLEN: Reasonableness is really for the  
11 Commission to determine.

12 THE WITNESS: Fine.

13 JUDGE SMOLEN: Although you are an expert in  
14 planning.

15 So based on that understanding among Counsel here  
16 and the Administrative Law Judge, I think your objection,  
17 then, is satisfied, is it not?

18 MR. WATSON: May I ask one further question?

19 JUDGE SMOLEN: Go ahead.

20 MR. WATSON: That means that none of his testimony  
21 regarding whether or not there are health effects could  
22 be cited for that proposition one way or the other?

23 MR. SUGARMAN: That is certainly correct. I never  
24 had any intention of so citing it.

25 JUDGE SMOLEN: Let's go onto the next question.

1 BY MR. SUGARMAN:

2 Q. In the context that you are describing is the  
3 use of the literature and interviews with realtors and  
4 appraisers and interviews with citizens, is that a normal  
5 research technique and a normal source of data for you to  
6 consider in determining whether there will in fact be a  
7 disinvestment which will lead to the changes in land use?

8 A. Yes.

9 Q. Have you done that regularly in your practice?

10 A. Yes, in one form or another many times.

11 Q. You cited a number of articles for the two  
12 conclusions that Mr. Watson asked you about at length and  
13 used the answers to the interrogatories, numbers 15 and  
14 23. And the two sentences that Mr. Watson was asking you  
15 about was, one, quote, my own research and conclusion led  
16 me -- and interviews, sorry -- "led me to the conclusion  
17 that there is a deep fear among knowledgeable citizens  
18 regarding the danger of exposure to all sources of  
19 electromagnetic fields. This fear has led to a problem  
20 in the selling of residential structures within the  
21 adjacent area to transmission line rights-of-way and  
22 initial responses to this issue appear in appraiser's  
23 seminars."

24 And then the second sentence was -- and I left out  
25 the footnote, which wasn't part of the text -- but the

1 initial indication is the range of up to 15 to 25  
2 percent.

3           Going back to the text, in interrogatory number 23,  
4 the statement that was quoted was, "In summary, until the  
5 uncertainty and differences of opinion are settled one  
6 way or the other, there is a high probability that values  
7 will decline, disinvestment will occur and changes in  
8 land use which are contrary to local policy and zoning  
9 will result in the areas immediately adjacent to  
10 transmission lines."

11           Now, you were asked in the interrogatories  
12 separately to, one, provide all notes, research results,  
13 et cetera, which were prepared by you -- to do the  
14 research that led you to that conclusion; secondly, to  
15 provide all documents that were prepared during  
16 interviews.

17           Now, just staying with that one for a minute, did  
18 you identify in answer to that question the interviews  
19 that you conducted?

20           A. Yes.

21           Q. With real estate agents and appraisers?

22           A. Yes.

23           Q. Did you in fact discuss with them their  
24 knowledge or their experience, I should say, with respect  
25 to the effect of transmission lines on problems in the

1 sale of those?

2 A. Yes.

3 MR. WATSON: Your Honor, I move to strike that. We  
4 have -- there is no foundation.

5 JUDGE SMOLEN: There is a stipulation. Is this  
6 regular redirect or does it still go to the motion to  
7 strike the witness' testimony which we have resolved by  
8 agreement of Counsel?

9 MR. WATSON: We have resolved one-half, I think.

10 JUDGE SMOLEN: All right.

11 MR. SUGARMAN: My concern is that -- that's  
12 correct. We didn't resolve that. But my concern is that  
13 also I want the record to show since there was  
14 cross-examination I wanted the full scope of the research  
15 and preparation that he did on the issue of foundation by  
16 way of strengthening --

17 JUDGE SMOLEN: You are asking really leading  
18 questions. This is redirect and it is direct  
19 questioning. I think you should ask questions not in a  
20 leading form.

21 MR. SUGARMAN: All right. Let me rephrase it.

22 JUDGE SMOLEN: Wait. Is there an answer to which  
23 you object, or are you objecting to the question?

24 MR. WATSON: I am objecting to his asking for --

25 JUDGE SMOLEN: Well, he is going to rephrase the

1 question. So he has withdrawn the previous question.

2 MR. WATSON: And he has withdrawn the previous  
3 answer as well?

4 JUDGE SMOLEN: I don't know that he answered that  
5 question.

6 MR. WATSON: It was not clear to me whether he did.

7 MR. SUGARMAN: I asked whether he had identified in  
8 the answers to interrogatories the persons that he  
9 discussed the subject with.

10 JUDGE SMOLEN: Was that the last question?

11 MR. SUGARMAN: He answered that. Then I asked him  
12 another question.

13 JUDGE SMOLEN: Let's get the last question.

14 MR. WATSON: I am moving to strike that.

15 (Whereupon, the reporter read from the record as  
16 follows:

17 Q. Did you in fact discuss with them their  
18 knowledge or their experience, I should say,  
19 with respect to the effect of transmission  
20 lines on problems in the sale of those?

21 A. Yes.

22 MR. WATSON: Your Honor, Mr. Sugarman is embarking  
23 on an examination to bring out what the witness discussed  
24 with somebody else about property values. And --

25 MR. SUGARMAN: Not about property values. Not

1 about property values. Would you stop that, please?

2 MR. WATSON: Whatever he calls it, what he asked  
3 these people, who are not present here today, we have no  
4 way of cross-examining those individuals. And it  
5 deprives us of our rights to confront the evidence  
6 presented.

7 JUDGE SMOLEN: Isn't it the same as if he said, for  
8 example, I did a survey and as a result of my survey this  
9 is my conclusion. Isn't that basically what he is  
10 saying? I spoke to so and so and so and so and so and so  
11 and as a result of discussing it with them this is my  
12 conclusion and partially based on that this is my study.

13 MR. WATSON: Your Honor, in that case I think it is  
14 a different situation from citing, for example, materials  
15 that he relied upon that we can ask him about, we can  
16 examine the witness about. Now what we have him doing is  
17 basically having a conversation with somebody else which  
18 we have no records or notes of which we are not privy to  
19 and we have the witness coming in and saying here is the  
20 information that I have on this matter and I have gained  
21 it from some interviews --

22 JUDGE SMOLEN: He has not given us the information.  
23 He is saying I have spoken and as a result of my  
24 conversations this is what -- I am going to overrule the  
25 objection and let the question and answer stand.

1 But no more leading questions, please, on redirect.

2 MR. SUGARMAN: Yes, Your Honor.

3 BY MR. SUGARMAN:

4 Q. Mr. Turner, would you get your answers to  
5 interrogatories in front of you for the next couple of  
6 questions? Since I don't have to ask leading questions  
7 and it would be easier.

8 (Witness perusing document.)

9 Q. Mr. Turner, would you identify -- I don't know  
10 if you need your responses for this, but would you  
11 identify the names of the persons you spoke with?

12 A. I spoke to -- in regards to resale of units  
13 adjacent to transmission lines, I spoke to six persons:  
14 Steven Darlington, a real estate agent in Bucks County;  
15 James Briggs, a real estate agent in Bucks County;  
16 William Rambo, a real estate agent in Chester County; a  
17 Mr. Snyder, who is an appraiser; Mr. Sengpeal in  
18 Langhorne, who is an appraiser; and John Hosey, who is  
19 also an appraiser.

20 MR. WATSON: Your Honor, I am going to object to  
21 testimony beyond this with respect to these individuals  
22 because we have already had appraisal not be admissible  
23 directly. Certainly it's not admissible as hearsay.

24 JUDGE SMOLEN: He is not going to tell us what they  
25 said.

1 BY MR. SUGARMAN:

2 Q. And in question number (c), interrogatory  
3 number 15(c), you were asked to provide the documents  
4 appraisals, data, memorandum, reports, studies,  
5 publications or other materials relied upon by you for  
6 your conclusion that, quote, this fear has lead to a  
7 problem in the selling of residential structures within  
8 the area adjacent to transmission line rights-of-way. Do  
9 you see that question there?

10 A. Yes.

11 Q. Now, you cited in response to that  
12 interrogatory relating to a problem in the selling of  
13 residential structures, you cited 15(b), and in citing  
14 15(b), what were you intending to refer to there?

15 A. In citing 15(b) I was going to refer to the  
16 interviews that I had held with those six persons.

17 Q. Just named?

18 A. Correct.

19 Q. And did you also respond to PECO's  
20 interrogatory by citing certain references from the  
21 annotated bibliography?

22 A. Yes.

23 Q. And Mr. Watson asked you a bunch of questions  
24 about that. And by the way, the statement that you cited  
25 those -- the statement that you cited those references in

1 response to interrogatory 15(c), did that statement say  
2 anything about or did it refer to the term property  
3 values? The term that you were asked about in 15(c). In  
4 other words, the portion of your testimony.

5 A. It dealt with -- 15(c) dealt with fear of a  
6 problem in the selling -- this fear, which is the fear of  
7 E/MF, has led to a problem in the selling of residential  
8 structures.

9 Q. Now, Mr. Watson referred you first to your  
10 reference number seven. Can you get your reference  
11 number seven in front of you?

12 A. I have it.

13 Q. Does reference number seven, if you will  
14 address the summary and conclusion in reference number  
15 seven, is that the Colwell 1979 paper?

16 A. Yes.

17 Q. What does reference seven conclude?

18 A. "Summary and conclusions: The primary  
19 conclusion of this article runs counter to existing  
20 doctorate. It has shown that proximity to an electric  
21 transmission line is associated with diminished selling  
22 prices."

23 Q. In your opinion did that support the statement  
24 that this fear has led to a problem in the selling of  
25 residential structures?

1 A. Yes.

2 Q. Now, Mr. Watson asked you about reference  
3 number-15. Would you get reference number 15, please?

4 Q. In terms of reference number 15, was that  
5 something that you considered and relied upon in your  
6 conclusion?

7 A. Yes.

8 Q. And take a look at the last paragraph on the  
9 first page of reference number 15. That is the Beasley  
10 article.

11 A. Yes.

12 Q. And how does it describe the studies in  
13 Baltimore?

14 A. The last paragraph on the page says, "The  
15 results of the studies are mixed for lots which are  
16 developed with higher priced homes, parenthesis, in the  
17 \$225,000 to \$250,000 range there appeared to be a zero to  
18 five percent negative effect in value of lots near the  
19 powerlines as opposed to those which were not near  
20 lines."

21 Q. Can you continue, please?

22 A. "In interviewing developers associated with  
23 these lot sales and subsequent home sales, however, he  
24 ascertained that the prices are usually somewhat quite  
25 similar. The influence comes in having a longer sellout

1 time frame for lots near the powerline rights-of-way.

2 Q. Did you consider that statement or that finding  
3 and rely upon it in reaching your conclusion?

4 A. Yes.

5 Q. Now, Mr. Watson also asked you about reference  
6 number 16, the impact of high voltage lines on --  
7 overhead transmission lines on the value of real property  
8 by Kinnard, et al. And I will ask you if you considered  
9 that analysis as well?

10 A. Yes, I did.

11 Q. Was there any indication in there as to whether  
12 there might be problems or were problems in selling real  
13 estate near transmission lines?

14 A. In that particular article there was no  
15 discussion of the damage of values. This and other  
16 articles dealt with sizes of lots and other factors. But  
17 this particular article, this Kinnard article, indicated  
18 no difference in values.

19 Q. Now, Mr. Turner, Mr. Watson also asked you  
20 about your reference number 17, which was the article in  
21 Fortune Magazine on December 31, 1990. Did you consider  
22 that article?

23 A. Yes.

24 Q. And did that article state -- addressing you to  
25 page 84 -- what the director of the analysis and support

1 division in the office of radiation programs at the  
2 Environmental Protection Agency concluded, referring you  
3 to the first column of page 84?

4 A. The reference is to Sagan of ERP --

5 Q. No. To Halper.

6 A. Okay.

7 Q. The next paragraph.

8 A. This is a quote from Martin Halper of the EPA  
9 and it states that, "He does not feel so confused. He is  
10 the director of the analysis and support division of the  
11 office of radiation programs and spent many years in the  
12 office of toxic substances. Says he, in all my years of  
13 looking at chemicals I have never seen a set of  
14 epidemiological studies that remotely approached the  
15 weight of the evidence that we are seeing with ELF  
16 electromagnetic fields. Clearly there is something  
17 here."

18 Q. Did you consider that statement in reaching  
19 your conclusion that was expressed in that interrogatory  
20 that this fear has led to a problem?

21 A. Yes.

22 Q. Now, if you look at page 85 of the Fortune  
23 Magazine article, the last two paragraphs, Mr. Watson  
24 referred you to Mr. Lewis' statement about a 25 percent  
25 value over the last 18 months?

1 A. Yes.

2 Q. Would you read the next two sentences of that  
3 paragraph after the statement about a 25 percent  
4 reduction in value?

5 A. Pardon me. I am going very slowly today.

6 Q. Okay.

7 (Witness perusing document.)

8 Q. It's the second to last paragraph of the  
9 article.

10 A. I understand. Do you want me to read the two  
11 paragraphs?

12 Q. The two sentences after the sentence about the  
13 25 percent.

14 A. "He says," and this is David Lewis, "He says  
15 living near powerlines is starting to seem as undesirable  
16 to buyers as living near a freeway. In Manhattan a real  
17 estate risk advisory service has begun offering investors  
18 information about the location of electrical substations  
19 so they can avoid nearby property."

20 Q. Mr. Watson also asked you about your reference  
21 number 18, which was an article in the Chicago Tribune?

22 A. Yes.

23 Q. Would you read the fourth paragraph of that  
24 article, please. That is June 7, 1991.

25 A. The fourth paragraph states, quote, increasing

1 numbers of owners are getting their homes tested for  
2 exposure and a small but growing number of buyers are  
3 making their purchases contingent on low readings."

4 Q. Low readings of what?

5 A. They are discussing magnetic fields created by  
6 electric powerlines.

7 Q. And did that support your conclusion that,  
8 quote, this fear has led to a problem in the selling of  
9 residential structures within the adjacent area to  
10 transmission line rights-of-way?

11 A. Yes.

12 Q. Now, finally Mr. Watson, I believe, asked you  
13 about your reference number 22. And your reference  
14 number 22 is the article in Government News which  
15 Mr. Watson characterized as a trade publication -- I'm  
16 sorry. The Realtor News, the government news section, is  
17 that right?

18 A. Yes.

19 Q. What is the title of that article?

20 A. Some Home Buyers Expressing Concerns About  
21 Powerlines.

22 Q. And Mr. Watson read you a sentence reading as  
23 follows: "Growing concerns over a possible link between  
24 high tension powerlines and cancer hasn't yet had any  
25 significant impact on residential markets, Realtors" --

1 registered trademark. Do you know what that term  
2 Realtors as a registered trademark refers to there?

3 A. No, I don't.

4 Q. "Realtors say." What does the next sentence  
5 say?

6 A. "But they say buyers in some markets are asking  
7 about powerlines and houses near powerlines in some areas  
8 tend to remain on the market longer."

9 Q. Did that support your conclusion as to the fear  
10 leading to a problem in the selling of residential  
11 properties?

12 A. Yes.

13 Q. If houses are on the market longer, putting  
14 aside the ultimate price, if houses are on the market  
15 longer what tends to happen with them in terms of the  
16 effect on land use in the community? What tends to  
17 happen to properties that are on the market for a longer  
18 period of time?

19 MR. WATSON: Your Honor, I object to that.

20 JUDGE SMOLEN: Now we are beating a dead horse. He  
21 has testified so many times already on the same thing.  
22 It is repetitious. That's all I am saying.

23 MR. SUGARMAN: All right.

24 BY MR. SUGARMAN:

25 Q. Mr. Watson asked you to define what you mean by

1 a nuisance. Can you state what you meant in writing your  
2 testimony by the term nuisance?

3 A. A nuisance is an action by a party or other  
4 uses or caused by other uses that affects your own use of  
5 your property.

6 JUDGE SMOLEN: And that is how you used the term  
7 nuisance in your testimony?

8 THE WITNESS: That's correct.

9 JUDGE SMOLEN: You are not offering it as a legal  
10 definition of the term nuisance?

11 THE WITNESS: Absolutely not. I know of legal  
12 definitions and they go on the basis of a lot of land use  
13 planning, but that is the way I used it in this case.

14 JUDGE SMOLEN: All right. Go ahead.

15 BY MR. SUGARMAN:

16 Q. Now, Mr. Watson asked you about your activities  
17 in Phoenixville. Did you provide in response to  
18 interrogatories copies of correspondence that you  
19 provided to the Borough of Phoenixville in your capacity  
20 as a consultant to the borough in evaluating the project  
21 that is shown on PECO-4?

22 A. Yes, I did.

23 Q. And I show you a document dated March 22,  
24 1990 --

25 MR. WATSON: Your Honor, I would like to see it,

1 please.

2 JUDGE SMOLEN: Yes.

3 MR. SUGARMAN: This was provided to you in the  
4 answers to interrogatories.

5 (Document handed to Mr. Watson.)

6 MR. SUGARMAN: Wait a minute, I may have given you  
7 the wrong document. I don't have a problem with  
8 you looking at it, but I may have given you the wrong  
9 document.

10 (Pause.)

11 MR. SUGARMAN: Yes, this is the document I meant.  
12 Yes, this is it. I gave you the right document.

13 JUDGE SMOLEN: Do we have an open question?

14 MR. SUGARMAN: I am letting Mr. Watson review the  
15 document, but the question is going to be is that the  
16 document that you gave to the borough council in March,  
17 1990.

18 MR. WATSON: I am going to object to it. It's  
19 irrelevant. It is extraneous material. What he gave to  
20 somebody else has nothing to do with this case.

21 JUDGE SMOLEN: You questioned him about -- is this  
22 on the project?

23 MR. WATSON: I questioned him because he made a  
24 reference to the project. But what papers he may have  
25 provided to somebody else has no bearing in this case.

1 MR. SUGARMAN: We are not offering this to prove  
2 that E/MF has a harmful effect on human health. We are  
3 offering it to prove that he raised the issue with the  
4 Borough of Phoenixville long before he got involved in  
5 this process, that it is an issue that he as a  
6 professional planner is raises. He gave it as an example  
7 of planners being concerned --

8 JUDGE SMOLEN: Don't testify, please.

9 Your questioning of Mr. Turner in connection with  
10 E/MF and the Borough of Phoenixville was that he never  
11 raised E/MF before the Borough of Phoenixville when he  
12 was testifying in connection with some project through  
13 which a 230 or 238 line ran. He wants to counter that.

14 MR. WATSON: I raised it as to what he testified  
15 to, whether he put anything in testimony.

16 JUDGE SMOLEN: I think it is proper.

17 BY MR. SUGARMAN:

18 Q. Is this the review document that you provided  
19 to borough council --

20 JUDGE SMOLEN: Wait, wait.

21 MR. WATSON: I think maybe we have two different  
22 projects here. The one that I raised about his never  
23 testifying on was Donald Gaster.

24 THE WITNESS: Is that Phoenixville?

25 MR. WATSON: No. The questions that you remember,

1 Your Honor, about whether he testified to it dealt with  
2 his testimony for Donald Gaster where he did not raise  
3 it. This is a separate matter.

4 MR. SUGARMAN: Donald Gaster was in Concord  
5 Township and his testimony related to regional housing  
6 needs. This is National Properties in Phoenixville and  
7 you asked him about -- he cited National Properties as  
8 one of the projects that he had raised this issue as a  
9 planner to substantiate that it was being raised by  
10 planners.

11 JUDGE SMOLEN: We can go back in the record. It  
12 will take some time. Perhaps you want to review your  
13 cross-examination to see whether or not you raised the  
14 matter of E/MF in this witness' association with the  
15 Phoenixville project.

16 MR. WATSON: The questions we asked with respect to  
17 this project were an example of Phoenixville and you say  
18 the buildings were set back from the edge of the  
19 right-of-way due to health concerns. And he answered  
20 yes.

21 I said do you know how far back they were set. He  
22 said 15 to 20 feet.

23 So this document does not go to the point raised.

24 JUDGE SMOLEN: But did you ask this witness whether  
25 or not he testified to whomever he was appearing before

1 that he did not mention E/MF?

2 MR. WATSON: No, Your Honor. Because we didn't  
3 know he testified in this case at all. We simply asked  
4 him if he recommended -- what he recommended and what  
5 happened. The question was whether the buildings were  
6 moved back and he testified that he made a reference to  
7 E/MF and that the buildings were moved back 15 to 20  
8 feet.

9 MR. SUGARMAN: In his direct testimony --

10 JUDGE SMOLEN: If he mentioned it in the direct  
11 this isn't necessary. It's repetitive.

12 MR. SUGARMAN: Your Honor, I assure you it is not  
13 repetitive.

14 JUDGE SMOLEN: You wouldn't repeat.

15 MR. SUGARMAN: Right.

16 He testified as to the fact that he was involved in  
17 a reviewing capacity, that a tot lot was removed from  
18 beneath the line because of the uncertainty of the health  
19 effects. Buildings were also set back beyond the  
20 right-of-way line. Both the developer and the community  
21 took the extra step in safeguarding the public health.

22 He was cross-examined to suggest the implication  
23 that they were allowed to remain very close to the  
24 powerline. Now I am going to have these two documents,  
25 his comments which set the stage for the developers

1 response, which deals with why the buildings were located  
2 the distance that they were. If my redirect is  
3 irrelevant then the cross-examination was irrelevant.

4 JUDGE SMOLEN: You didn't ask about why they were  
5 set back.

6 MR. SUGARMAN: That's right. And how far.

7 JUDGE SMOLEN: But you didn't ask that. He was  
8 objecting to your question. Why don't you withdraw that  
9 question, ask another question along the lines to which  
10 you supported your first question and we will go ahead.

11 So to that extent your objection is sustained.

12 MR. SUGARMAN: Your Honor, I am just trying to get  
13 on with this and get it done.

14 JUDGE SMOLEN: Let's go.

15 BY MR. SUGARMAN:

16 Q. Mr. Turner, you raised the issue of E/MF as a  
17 concern when the plans were first presented to you, is  
18 that correct?

19 A. Yes.

20 Q. Did the developer respond to that?

21 A. Yes.

22 Q. As a result of the developer's response, were  
23 the buildings moved?

24 A. Yes.

25 Q. And did the developer in his response provide

1 information from Philadelphia Electric Company as to  
2 how --

3 MR. WATSON: Objection, Your Honor. This is  
4 leading. He is testifying here.

5 MR. SUGARMAN: I will withdraw the leading  
6 question. I am trying to finish, that's all, Your Honor,  
7 and it is very clear and we have documents. I'm just  
8 trying to help everybody out.

9 JUDGE SMOLEN: Go ahead.

10 BY MR. SUGARMAN:

11 Q. What information did the developer provide to  
12 the borough -- first of all, is this the letter that the  
13 developer sent to the borough, dated October 22, 1990?

14 A. Yes.

15 Q. What information did the developer convey to  
16 the borough with respect to the siting of the project in  
17 regard to the transmission line?

18 JUDGE SMOLEN: Wait a minute. I am not sure that  
19 the information that the builder provided to the borough  
20 is material in this particular case. Isn't it sufficient  
21 enough that the builder provided material and as a result  
22 the setbacks were made greater? We don't have to burden  
23 the record with all this if that is what the witness is  
24 going to testify to.

25 MR. SUGARMAN: There is in here --

1 MR. WATSON: I am going to object to him reading  
2 this document. It's not admissible. It is extraneous  
3 material. I asked him whether it was set back. Now he  
4 is asking whether it was set back. He said it was set  
5 back 15 to 20 feet when he was asked on cross.

6 BY MR. SUGARMAN:

7 Q. Was the amount of setback based on advice from  
8 PECO as to what the milligauss level would be at that  
9 point and what the distance from the transmission line  
10 would be and what was a reasonable amount of milligauss  
11 level in PECO's opinion?

12 MR. WATSON: Objection, Your Honor, compound  
13 question. He has at least three questions in there.

14 MR. SUGARMAN: Your Honor, can this witness come  
15 back at ten o'clock tomorrow?

16 JUDGE SMOLEN: He can come back. But I'm going to  
17 sustain this objection. Ask one question.

18 MR. SUGARMAN: Now that I know he's going to come  
19 back I don't have any problem. I will go the slow way  
20 until it's all done.

21 JUDGE SMOLEN: Go ahead.

22 BY MR. SUGARMAN:

23 Q. What was the basis of locating the buildings at  
24 the distance that they were located from the powerline?

25 MR. WATSON: I object to that, Your Honor. There

1 is no foundation. He didn't know how far they were  
2 located from the powerline and hasn't testified to it.  
3 If he puts that in the record then we can have a  
4 comparison.

5 JUDGE SMOLEN: I am going to ask some questions.  
6 The buildings were set back?

7 THE WITNESS: Yes. Some of the buildings were  
8 directly on the right-of-way line.

9 JUDGE SMOLEN: And they were set back?

10 THE WITNESS: That's correct.

11 JUDGE SMOLEN: Were they set back to certain  
12 distances which were suggested by any party?

13 THE WITNESS: No. That was a decision made by the  
14 developer in response to a notion of a safety margin  
15 beyond the right-of-way.

16 JUDGE SMOLEN: Where did the safety margin emanate,  
17 from where did it emanate?

18 THE WITNESS: I suspect that it was arbitrary and  
19 said we should set it back beyond the right-of-way and  
20 the buildings were located a certain distance back and it  
21 was agreed upon.

22 JUDGE SMOLEN: And was any material in determining  
23 the agreed upon setback, was material supplied by  
24 Philadelphia Electric Company in the consideration of the  
25 amount of setback?

1 THE WITNESS: I cannot make a conclusion on that.  
2 Philadelphia Electric provided information regarding the  
3 milligauss levels at the edge of the right-of-way.

4 JUDGE SMOLEN: So you don't know whether it was  
5 considered or not?

6 THE WITNESS: It was what I would call an  
7 adjudicated compromising solution where the community and  
8 the developer came together after public hearings and  
9 said let's get it back beyond the right-of-way as an  
10 extra safety margin and the developer moved it back. He  
11 also produced information from Philadelphia Electric  
12 regarding milligauss levels at the edge of the  
13 right-of-way.

14 MR. SUGARMAN: Thank you.

15 JUDGE SMOLEN: Let's go on.

16 BY MR. SUGARMAN:

17 Q. Mr. Watson asked you about the status of the  
18 research in the area and asked you a series of questions  
19 about various references that you had as to whether  
20 researchers have determined an effect between E/MF and  
21 public health, is that correct?

22 A. Yes.

23 Q. Now, I ask you did you also consider in  
24 reaching your evaluation your reference number ten?

25 JUDGE SMOLEN: If the witness feels that he is

1 unable to continue at this point we can recess and come  
2 back tomorrow.

3 MR. SUGARMAN: I am almost through, Your Honor.

4 JUDGE SMOLEN: All right.

5 MR. SUGARMAN: If there is not a lot of recross we  
6 might as well finish.

7 MR. WATSON: Your Honor, he didn't cite number ten  
8 and this is a leading question anyway. He is trying to  
9 bring in the company's position paper.

10 JUDGE SMOLEN: Didn't cite number ten?

11 MR. WATSON: When we asked what he relied upon he  
12 didn't list it.

13 MR. SUGARMAN: I am entitled on redirect to ask if  
14 there is something else he relied upon.

15 MR. WATSON: Not to suggest, by the way, didn't you  
16 consider number ten.

17 JUDGE SMOLEN: I think the objection is well taken  
18 at this point. Let's have another question. Even if you  
19 want to rephrase this one, rephrase it.

20 BY MR. SUGARMAN:

21 Q. In forming your opinion, did you consider any  
22 other documents?

23 A. Yes.

24 Q. And do you have any of them in front of you?

25 A. I have a whole lap full of documents.

1 Q. Did you consider -- so that I am not accused of  
2 leading, would you identify some of those or one or two  
3 of those that you considered?

4 A. As part of my consideration I examined  
5 documents published by Philadelphia Electric Company and  
6 PP&L.

7 Q. And do you have any of those that you  
8 considered of PECO's with you today?

9 A. I only seem to have one of the PECO documents,  
10 but I remember another one that I used. I might be  
11 withering here. The document that I have in front of me  
12 is noted in the annotated bibliography as number ten,  
13 Electric and Magnetic Fields, of Philadelphia Electric  
14 Company. And then I also had another document on the  
15 ABC's of E/MF, as I recollect.

16 Q. I would like to direct your attention to the  
17 PECO document, several lines above the summary and ask  
18 you --

19 MR. WATSON: Your Honor --

20 JUDGE SMOLEN: Let him finish the question. And  
21 wait before you answer.

22 BY MR. SUGARMAN:

23 Q. I would like to answer if you considered the  
24 quote that appears there?

25 MR. WATSON: Your Honor, I object. It is beyond

1 the scope of cross. There was no reference made to ten  
2 in the direct examination. It was not covered. This is  
3 an attempt to add some new direct testimony. It's far  
4 beyond the scope of the cross.

5 JUDGE SMOLEN: Is this article already in this  
6 record?

7 MR. WATSON: No, sir. It has not been referred to.  
8 He had a chance to do whatever he was going to do with it  
9 in his direct testimony. He did not do anything with it.

10 MR. SUGARMAN: That's not true.

11 JUDGE SMOLEN: Is it in his direct testimony?

12 MR. SUGARMAN: It is cited as a reference --

13 JUDGE SMOLEN: In his direct testimony?

14 (Pause.)

15 JUDGE SMOLEN: This is a document distributed by  
16 Philadelphia Electric Company? I am asking the witness.  
17 How did you get it?

18 THE WITNESS: We probably got it directly from  
19 Philadelphia Electric Company. We contacted both PP&L  
20 and Philadelphia Electric Company regarding publications  
21 in this regard. I don't know how it came into the  
22 office, but I think it might have come in by mail or by  
23 pickup. I am not sure which one.

24 JUDGE SMOLEN: When?

25 THE WITNESS: This document probably would have

1 been within the last six months.

2 JUDGE SMOLEN: Before or after you prepared your  
3 testimony?

4 THE WITNESS: Well before I prepared the testimony.  
5 The document is dated 1988.

6 JUDGE SMOLEN: Do you mention it in your testimony?

7 THE WITNESS: Only in the bibliography.

8 JUDGE SMOLEN: You did mention it?

9 THE WITNESS: It's in the bibliography, which is  
10 noted with my testimony. It is noted in the bibliography  
11 as one of the reports.

12 JUDGE SMOLEN: I am going to ask Mr. Watson, did  
13 you ask any questions on that?

14 MR. WATSON: No questions, Your Honor. That is the  
15 basis for my objection.

16 JUDGE SMOLEN: The basis for his objection is that  
17 it exceeds the scope of cross.

18 MR. SUGARMAN: And the answer is that he was asked  
19 for all the bases of his conclusion as to the existence  
20 or the probable existence of E/MF and the basis for not  
21 energizing the line and the basis for his recommendations  
22 with respect to prudent avoidance. He was asked about  
23 all those things on cross. And on redirect it is, I  
24 think, fundamental that I have a right subject to the  
25 issue of surprise to, quote, rehabilitate, not that he

1 needs rehabilitation, but to ask him about something.  
2 And he had cited it in his annotated bibliography, so  
3 it's not beyond the scope to ask him if there is  
4 additional basis beyond what Mr. Watson asked him about  
5 from his answers to interrogatories for his conclusions.

6 MR. WATSON: But, Your Honor --

7 MR. SUGARMAN: It is not beyond the scope.

8 JUDGE SMOLEN: You will be able to recross on it.

9 MR. WATSON: Yes, Your Honor, but the point is  
10 whether we are going to start introducing new material on  
11 redirect.

12 JUDGE SMOLEN: If it is a document that truly comes  
13 from PECO, and I don't know whether it does, it could be  
14 considered as an admission and could come in, the whole  
15 document itself.

16 MR. WATSON: I recognize that. But I am saying  
17 this witness -- here is what happened in simple terms.  
18 He was about the bases for his opinions from these  
19 interrogatories and he made a list of them. He didn't  
20 include number ten in his list.

21 JUDGE SMOLEN: He says he did.

22 MR. WATSON: No. He included number ten in his  
23 annotated bibliography.

24 JUDGE SMOLEN: Don't refer to annotated now because  
25 the bibliography is not going to be annotated.

1 MR. WATSON: His unannotated bibliography. Then we  
2 asked him questions in discovery what were his bases for  
3 his opinions and he made a listing of the bases for his  
4 opinions and he gave us the numbers. He did not make any  
5 reference to ten. We asked him about the ones that he  
6 made reference to. And now Mr. Sugarman is trying to get  
7 ten back in because the witness never referred to it in  
8 his material. And I think the Commission rules suggest  
9 that you can't do that.

10 JUDGE SMOLEN: I'm going to shorten this. The  
11 objection is sustained. Let's go to the next question.

12 MR. SUGARMAN: Your Honor, I would like to be heard  
13 on why it should be admitted.

14 JUDGE SMOLEN: You have not offered it yet. Why  
15 don't you finish with the witness and then you can offer  
16 it.

17 BY MR. SUGARMAN:

18 Q. Did you consider the information that PECO  
19 itself provided in reaching your conclusions?

20 A. Yes.

21 JUDGE SMOLEN: All right. He considered it. He is  
22 not going to ask him what he considered. Go ahead.

23 BY MR. SUGARMAN:

24 Q. What information did you have from PECO that  
25 you considered?

1 MR. WATSON: Objection, Your Honor. Same basis.

2 JUDGE SMOLEN: I don't know whether you are driving  
3 at the content of the information or you are looking for  
4 an answer, some material that was sent to me.

5 MR. SUGARMAN: At this point I will ask him some  
6 material that was sent to him.

7 MR. WATSON: Your Honor, we are sort of dancing  
8 around this. This is sort of like saying is there  
9 anything between exhibits nine and 11 that you  
10 considered.

11 MR. SUGARMAN: That is not the case, Your Honor,  
12 because the questions on cross --

13 JUDGE SMOLEN: Mr. Sugarman, I ruled on it. I  
14 sustained the objection. Go onto the next topic.

15 BY MR. SUGARMAN:

16 Q. Mr. Watson and His Honor asked you on direct  
17 what you would recommend or what in your opinion would be  
18 appropriate by way of not energizing the line. And you  
19 responded that you would not energize a line such as this  
20 through a highly populated area unless and until there  
21 was definite information as to the nature and the extent  
22 of the problem or health problems associated with E/MF,  
23 is that correct?

24 MR. WATSON: I move to strike. Leading. He's  
25 testifying.

1 JUDGE SMOLEN: It is leading. You are testifying.

2 MR. SUGARMAN: Your Honor, it is the basic form of  
3 redirect to ask the witness what his previous testimony  
4 was by way of a leading question.

5 JUDGE SMOLEN: I sustained it. Go ahead. You can  
6 rephrase.

7 MR. SUGARMAN: Your Honor, can I call him back  
8 tomorrow morning when we are all fresh? Can we adjourn  
9 for the night?

10 JUDGE SMOLEN: Let's ask the witness can he return  
11 tomorrow?

12 THE WITNESS: I am available tomorrow with a  
13 meeting between nine and 11. If you are running all day,  
14 I can make it some time.

15 JUDGE SMOLEN: Let's see what the schedule is with  
16 Dr. Liboff.

17 MR. SUGARMAN: He is coming in tomorrow and subject  
18 to the weather he will be here at ten o'clock.

19 MR. WATSON: Based on what it ran today if we  
20 assume the same sort of cadence, timing, I imagine cross  
21 will last all day.

22 JUDGE SMOLEN: How much more do you have?

23 MR. SUGARMAN: I have about -- it's hard for me to  
24 say, Your Honor, because I am trying to conduct redirect  
25 the way I normally conduct it and I am having trouble

1 doing it.

2 JUDGE SMOLEN: Well, you are doing a lot of  
3 characterization. Does he recall his testimony about  
4 certain subject matter and then ask the question.

5 MR. SUGARMAN: That is what I did.

6 JUDGE SMOLEN: No, but you were characterizing his  
7 testimony. Go ahead.

8 MR. SUGARMAN:

9 Q. Do you recall your testimony about your  
10 recommendations as to energizing or not energizing the  
11 line?

12 A. Yes.

13 Q. And do you recall the factors that you  
14 identified in recommending that the line not be  
15 energized?

16 A. Yes.

17 Q. And can you state what those factors were?

18 A. The first factor was a generalized principle of  
19 prudent avoidance which in my opinion states clearly that  
20 you do not run new lines through densely populated areas.

21 Q. And do you have support from Philadelphia  
22 Electric Company for the application of prudent avoidance  
23 with respect to E/MF?

24 A. There are two references. The one reference is  
25 in a booklet that is produced by Philadelphia Electric, a

1 glossy booklet which I believe is referenced as the ABC's  
2 of E/MF. I will have to find it. But it basically  
3 discusses the issues of --

4 JUDGE SMOLEN: You were not asked what it  
5 discusses.

6 THE WITNESS: I beg your pardon.

7 JUDGE SMOLEN: He may ask you that and there may be  
8 objections on it. Just try to confine your answer to the  
9 question.

10 THE WITNESS: Fine.

11 That was one booklet. The other was an article  
12 published by Philadelphia Electric entitled Electric and  
13 Magnetic Fields which I also reviewed.

14 BY MR. SUGARMAN:

15 Q. And do you have that second article with you  
16 today?

17 A. Yes, I do.

18 Q. And did you consider it in reaching the  
19 conclusion as to which you testified on  
20 cross-examination?

21 JUDGE SMOLEN: It's the same thing. He stands to  
22 be heard.

23 MR. WATSON: Beyond the scope, Your Honor. We  
24 didn't ask him that, we didn't ask him about the article.  
25 He is just trying to provide supplemental direct

1 testimony after cross-examination here.

2 MR. SUGARMAN: I would like to distinguish this.

3 MR. WATSON: Redirect is supposed to be asked on  
4 what was asked on cross.

5 JUDGE SMOLEN: Go ahead, Mr. Sugarman.

6 MR. SUGARMAN: The distinction between this and the  
7 previous one is that in the previous one where Your Honor  
8 sustained the objection the Applicant had directed an  
9 interrogatory and had asked the witness for all of his  
10 references supporting that particular conclusion. In  
11 this case --

12 JUDGE SMOLEN: Are you offering the entire  
13 document? Are you going to offer it as an admission?

14 MR. SUGARMAN: Yes.

15 JUDGE SMOLEN: Do you have any objection to it  
16 coming in as an admission from Philadelphia Electric  
17 Company? Not through this witness. For any reason  
18 whatsoever. Is it not an admission?

19 Let's go off the record.

20 (Discussion off the record.)

21 MR. WATSON: Your Honor, to the extent that this is  
22 the document as we understand it prepared by Philadelphia  
23 Electric Company, we have no problem with its admission  
24 if it is properly sponsored. We do have a problem,  
25 however, with the basic principle of waiving here the

1 rule that redirect examination should be limited to the  
2 material that was cross-examined on. This was not  
3 cross-examined on.

4 JUDGE SMOLEN: So what you are saying is that you  
5 have no objection to this document if it does not come in  
6 through this witness.

7 MR. WATSON: If it is sponsored properly, yes, Your  
8 Honor.

9 JUDGE SMOLEN: This witness could sponsor it in the  
10 sense that he received it in the mail and this is what he  
11 got in the mail.

12 MR. WATSON: He could sponsor it in that sense,  
13 Your Honor, but not in connection with his testimony.

14 JUDGE SMOLEN: Let's get the document in as an  
15 exhibit. He received it in the mail.

16 MR. SUGARMAN: Thank you, Your Honor.

17 BY MR. SUGARMAN:

18 Q. Is Turner Exhibit 4, are they two documents,  
19 two documents that you received from PECO?

20 A. Yes, they are basically the same document  
21 reprinted with a different header.

22 JUDGE SMOLEN: Are they marked for identification?  
23 I don't think they are.

24 MR. SUGARMAN: May they be marked as Turner-4.  
25 4(a) and 4(b)?

1 MS. McCLOSKEY: I think we're up to 5.

2 MR. SUGARMAN: Turner-5. Sorry, Your Honor.

3 JUDGE SMOLEN: Four and 5.

4 MR. SUGARMAN: We already have a four.

5 MS. McCLOSKEY: Four is the bibliography, I  
6 believe.

7 JUDGE SMOLEN: Excuse me. She is correct.

8 MR. SUGARMAN: You rejected it.

9 JUDGE SMOLEN: You are going to supply a new  
10 bibliography without annotations. That would be four.  
11 This would be 5 and 6.

12 (Whereupon, the documents were marked  
13 as Protestant's Exhibits Nos. Turner-4,  
14 Turner-5 and Turner-6 for  
15 identification.)

16 MR. SUGARMAN: We are offering it as an admission  
17 by PECO.

18 JUDGE SMOLEN: Let's find out how this witness got  
19 it.

20 MR. SUGARMAN: How he what?

21 JUDGE SMOLEN: How he received it.

22 BY MR. SUGARMAN:

23 Q. How did you receive Turner-5 and 6?

24 A. To the best of my recollection, it came in by  
25 mail. I might say we did solicit this information with  
Philadelphia Electric and with other power companies so

1 that it just didn't arrive as a flyer in the mail.

2 JUDGE SMOLEN: For both Counsel, let me request  
3 that they don't start reading from documents which are  
4 going to be part of the record. If you are going to make  
5 argument on them, make in it your brief. The whole  
6 document is coming in with whatever it says. It's  
7 unnecessary to put the same thing on the record twice.

8 MR. SUGARMAN: Can I just ask what portion of it he  
9 relied upon?

10 JUDGE SMOLEN: He read the whole thing. Did you  
11 read the whole thing?

12 THE WITNESS: Yes.

13 JUDGE SMOLEN: You relied on the whole thing?

14 THE WITNESS: Yes.

15 JUDGE SMOLEN: Go ahead.

16 BY MR. SUGARMAN:

17 Q. Last question. You indicated that -- you spoke  
18 about the relationship between deferring energizing this  
19 line and congested areas of population. Are there  
20 areas --

21 JUDGE SMOLEN: I am not sure he said congested.

22 MR. SUGARMAN: What did he say?

23 JUDGE SMOLEN: I don't know. But I don't believe  
24 he said congested.

25 BY MR. SUGARMAN:

1 Q. What was the word you used?

2 A. Very dense, high density.

3 Q. High density. Sorry. Okay.

4 Are there planning considerations in the planning  
5 profession which allocate, I will say, or locate uses  
6 that are associated with risks to avoid dense population  
7 areas?

8 A. Yes.

9 Q. And can you identify some of those uses?

10 A. Identify some of the uses?

11 Q. Yes.

12 A. The uses can be onerous industrial uses,  
13 quarries, landfills and uses that have an effect that  
14 would cause surrounding land uses to be impacted  
15 negatively.

16 Q. In so locating those uses is it assumed that  
17 they will be safe or non-harmful in those non-densely  
18 populated areas or is it --

19 JUDGE SMOLEN: I don't understand the question.

20 MR. WATSON: Objection, Your Honor.

21 JUDGE SMOLEN: I don't understand the question.

22 BY MR. SUGARMAN:

23 Q. In the planning profession is it assumed that  
24 by locating such uses at a distance from densely  
25 populated areas that will eliminate the risk associated

1 with that usage or is it intended to minimize it?

2 JUDGE SMOLEN: It is a leading question.

3 Sustained. Mr. Watson made an objection. He raised his  
4 hand.

5 BY MR. SUGARMAN:

6 Q. What is the philosophy behind allocating those  
7 uses to sparsely populated areas?

8 A. Those uses have a significant external impact  
9 and therefore should not be located in an area where  
10 their impacts would be felt by a significant number of  
11 persons or other kinds of uses. So that distance is one  
12 of the coefficients or one of the parameters we use  
13 between onerous uses and other more normal land uses.  
14 The planning literature deals with buffers, berms,  
15 distance separations and other means to isolate onerous  
16 uses from more normal pattern of land uses within a  
17 community.

18 Q. And lastly, Mr. Turner, in indicating the basis  
19 for not energizing the line, did you consider or do you  
20 consider that the question of the need for the line is  
21 relevant to that determination?

22 A. I think it is relevant and I included it in my  
23 recommendations as to the evaluation of whether or not  
24 the line is needed in reference to whether or not the  
25 line is energized.

1 MR. SUGARMAN: Thank you. No further questions.

2 MR. WATSON: I move to strike all of his testimony  
3 that is based upon a consideration partially of need,  
4 Your Honor. That has been excluded from this case. I  
5 could give specific references.

6 JUDGE SMOLEN: Well, need has been excluded.

7 MR. SUGARMAN: Yes, it has, Your Honor. The only  
8 purpose for including it here was because the witness was  
9 asked what is the basis or the formula or criteria that  
10 he would use in deciding when to energize the line. It  
11 is unfair to leave his answer incomplete.

12 JUDGE SMOLEN: I am not going to leave it  
13 incomplete. So the witness' testimony, objected to, is  
14 that need is a consideration in energizing it. Whether  
15 you believe there is a need now or no need now, you are  
16 not making any recommendation on that, are you?

17 THE WITNESS: That's correct.

18 JUDGE SMOLEN: You are saying that that should be a  
19 consideration?

20 THE WITNESS: Correct.

21 JUDGE SMOLEN: And you don't know whether or not  
22 the Commission has already considered that, do you?

23 THE WITNESS: No, I do not.

24 MR. WATSON: Perhaps I heard this wrong but I  
25 thought I just heard him say that he considered need.

1 JUDGE SMOLEN: As a factor.

2 MR. WATSON: As a factor in reaching his  
3 recommendations here in this case.

4 JUDGE SMOLEN: Did you consider need in reaching  
5 your recommendations in this case?

6 THE WITNESS: No. The last page of my testimony  
7 stated that one of the parameters --

8 MR. WATSON: Could we have his answer read back,  
9 Your Honor?

10 JUDGE SMOLEN: Well, is Mr. Sugarman satisfied that  
11 if the witness did answer that need was a consideration  
12 that that portion of his answer be stricken?

13 MR. SUGARMAN: Yes and no. His testimony was that  
14 it is a factor that should be considered in making a  
15 decision.

16 JUDGE SMOLEN: Let's find out if that's his  
17 testimony.

18 (Whereupon, the reporter read from the record as  
19 follows:

20 Q. And lastly, Mr. Turner, in indicating the  
21 basis for not energizing the line, did you  
22 consider or do you consider that the question  
23 of the need for the line is relevant to that  
24 determination?

25 A. I think it is relevant and I included it in

1 my recommendations as to the evaluation of  
2 whether or not the line is needed in reference  
3 to whether or not the line is energized.

4 JUDGE SMOLEN: I take that -- I am asking the  
5 witness -- to be that you included the question of  
6 whether the line is needed in reaching your conclusion,  
7 not whether or not you believe the line is needed?

8 THE WITNESS: You are absolutely correct. And it  
9 is phrased as a question on the last page of my  
10 testimony.

11 JUDGE SMOLEN: Does that satisfy the objection?

12 MR. WATSON: That provides the basis for the  
13 objection, and that is he is taking into account an  
14 improper factor, a factor that has been excluded by the  
15 Commission.

16 JUDGE SMOLEN: He says he has not taken it as a  
17 factor in reaching his conclusions. He said that that is  
18 a factor which should be taken into consideration.

19 MR. WATSON: I think the answer just read said he  
20 did. Maybe I missed that, but I think he said he in fact  
21 took it into account.

22 JUDGE SMOLEN: He took it into account in reaching  
23 his conclusion that it should be a factor. That is the  
24 way I understand it. You can argue one way and  
25 Mr. Sugarman can argue some other way. I am going to

1 overrule the objection. Let's go on.

2 You have concluded, have you not, Mr. Sugarman?

3 MR. SUGARMAN: Yes, sir.

4 JUDGE SMOLEN: Do you have any recross?

5 MR. WATSON: Yes, Your Honor.

6 RECROSS-EXAMINATION

7 BY MR. WATSON:

8 Q. How did you take the question of need into  
9 account in your testimony?

10 A. I stated that that should be one of the  
11 parameters investigated in terms of the energizing of the  
12 line.

13 Q. And did you investigate that parameter?

14 A. No, I did not. As I stated earlier, I made no  
15 investigation.

16 Q. Did you make any assumptions about that  
17 parameter?

18 A. No. I just included it as something  
19 that should be considered in evaluating whether or not  
20 the line should be energized or not.

21 Q. So let me ask you hypothetically, what if it is  
22 assumed in this case that the line is needed? Would that  
23 have any bearing on your conclusion that it ought to be  
24 delayed?

25 A. That, of course, deals with weighing the issue

1 of public concern as reflected by the Protestants versus  
2 the need for the line. I made no evaluation on that.

3 Q. And what is your evaluation of it?

4 A. I made none.

5 Q. I am just asking what your evaluation right now  
6 is, not whether you did.

7 JUDGE SMOLEN: I am not sure I understand the  
8 question. Evaluation of need?

9 MR. WATSON: I am just asking him --

10 JUDGE SMOLEN: Now you are opening the door.

11 MR. WATSON: I am asking the hypothetical question  
12 whether -- if it is assumed that the line is needed  
13 whether that in fact --

14 JUDGE SMOLEN: You are asking him to weigh the  
15 public concern expressed through the witnesses versus an  
16 assumed need?

17 MR. WATSON: Yes, Your Honor. I am assuming that  
18 the Commission has said that the line is needed and I am  
19 asking him assuming the Commission says the line is  
20 needed does that have an impact on your recommendation  
21 that the line be delayed.

22 MR. SUGARMAN: I object to the question. I object  
23 to the question for two reasons. One is because we have  
24 never had any opportunity to participate and the  
25 Commonwealth Court has said that we were denied due

1 process and that the Commission acted improperly in  
2 whatever it did before because we never had any  
3 opportunity to participate.

4 Number two, the issue of need has been precluded  
5 from this proceeding, so we have not been able to make a  
6 record in this proceeding up to now.

7 Number three, the company advocated to Your Honor  
8 that if we could prove an effect then we might be  
9 entitled to litigate the issue of need. And that was  
10 said by the company to Your Honor through Counsel over  
11 and over again in an effort to persuade Your Honor to  
12 keep it out.

13 Fourthly, the witness has testified that -- if the  
14 witness is being given a blanket single word, need, which  
15 as everybody knows in the utility business is not a  
16 single value but has a range of values and it is  
17 inappropriate to ask him.

18 Fifthly, the witness testified that he didn't  
19 consider what degree or whether the line is needed, and  
20 it is inappropriate. It is beyond the scope of redirect,  
21 as well.

22 JUDGE SMOLEN: The objection is sustained. I  
23 believe the objection is sustainable on the point that it  
24 calls for a conclusion of the witness that the Commission  
25 has to make in view of the opposition and the concern of

1 the public versus the need, what should be done, and that  
2 is a conclusion that the Commission has to reach, not a  
3 witness.

4 MR. WATSON: One more motion, Your Honor. I would  
5 like to renew at this time our motion to strike the  
6 testimony as to property values, as to delay in selling,  
7 et cetera, as the references that were brought up in the  
8 redirect I think fairly plainly say every situation, of  
9 course, is different, one of the references talks about  
10 the impact of high voltage overhead transmission lines  
11 and the value of real property. In none of those  
12 references is there any discussion of this line at all.  
13 They are from Chicago, from articles written in various  
14 places. Therefore there is no foundation whatsoever for  
15 his assertions. It is like an insurance company taking  
16 into account value of property but that does not make  
17 them appraisers. You get an appraisal first and then the  
18 person who uses the information may take it into account.  
19 The difference here is there is no appraisal information,  
20 he is not an expert on appraising, he has conducted no  
21 appraisal and what he is doing is saying since I rely  
22 upon property value information I can therefore make  
23 assertions about it and put it into the record without an  
24 appraisal.

25 JUDGE SMOLEN: I think by your own objection you

1 have answered the question that it goes to the weight of  
2 this witness' testimony, the weight to be placed on this  
3 witness' testimony, rather than to its admissibility. He  
4 has testified, as I understand it, that he has taken this  
5 perception, this perceived fear into account, the  
6 perceived fear that values are going to go down, and as a  
7 result of these perceptions he has come up with these  
8 conclusions. I think your objection goes to weight and  
9 not to admissibility and therefore I will overrule the  
10 objection without Mr. Sugarman saying anything.

11 MR. SUGARMAN: I think Your Honor was trying to  
12 achieve a result that way. I only want to say now that I  
13 want to move the admission of Turner-1 through 6, with  
14 the exception of 4, which is to be supplied.

15 JUDGE SMOLEN: Well, we will receive them all.  
16 This 4 is a bibliography which is without annotations,  
17 just a list.

18 (Whereupon, the documents marked as  
19 Protestant's Exhibits Nos. Turner-1  
20 through Turner-6 were received in  
evidence.)

21 JUDGE SMOLEN: Anything further of this witness?  
22 Does any other Counsel have any questions for the  
23 witness?

24 MS. McCLOSKEY: Was his statement moved into the  
25 record?

1 JUDGE SMOLEN: If it was not moved, that is Turner  
2 Statement No. 1, and it is received without any  
3 additional objections which were not ruled on previously.

4 (Whereupon, the document marked as  
5 Protestant's Statement No. 1  
was received in evidence.)

6 JUDGE SMOLEN: Anything further of the witness by  
7 other Counsel?

8 (No audible response.)

9 JUDGE SMOLEN: Any recross?

10 (No audible response.)

11 JUDGE SMOLEN: Anything else?

12 (No audible response.)

13 JUDGE SMOLEN: You are excused. Thanks an awful  
14 lot for coming in.

15 (Witness excused.)

16 JUDGE SMOLEN: We are going to adjourn today's  
17 session and we convene tomorrow at 10:00 a.m.

18 Off the record.

19 (Discussion off the record.)

20 (Whereupon, at 5:35 p.m., the hearing was  
21 adjourned, to be reconvened at 10:00 a.m. on Wednesday,  
22 October 16, 1991, in Philadelphia, Pennsylvania.)

23

24

25

C E R T I F I C A T E

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

I hereby certify, as the stenographic reporter,  
that the foregoing proceedings were taken  
stenographically by me and thereafter reduced to  
typewriting by me or under my direction; and that this  
transcript is a true and accurate record to the best of  
my ability.

COMMONWEALTH REPORTING COMPANY, INC.

By: Robert J. Stonaker

Robert J. Stonaker

PROTESTANT'S  
STATEMENT NO. 1

A-11053 OF 053

10/15/91

Phila, PA PJS

Testimony of  
Ronald C. Turner, AIA, AICP

to be presented to the  
Public Utilities Commission  
Commonwealth of Pennsylvania

in regards to the  
Woodbourne-Heaton 230 KV Line

RECEIVED

OCT 25 1991

SECRETARY'S OFFICE  
Public Utility Commission

Ronald C. Turner & Associates  
architects and planners  
P. O. Box 68  
New Hope, Pennsylvania 18938

September 5, 1991

DOCUMENT  
FOLDER

DOCKETED  
OCT 23 1991

CONTENTS

Testimony of Ronald C. Turner  
to the  
Public Utilities Commission  
Commonwealth of Pennsylvania  
regarding  
Woodbourne-Heaton 230 KV Line

Purpose of Testimony .....1  
The Land Use Context.....1  
Scientific Evidence and Public Perception  
regarding the Impact of Electromagnetic Fields (EMF).....2  
The Traditional Way of Handling Off-Site  
EMF Impacts in Township Zoning and Planning  
Ordinances.....3  
The Impacts of the Proposed Line on Surrounding Uses.....5  
The Concept of Prudent Avoidance and Public  
Policy Recommendations.....6  
List of Supplements to be provided.....9

APPENDICES -

- Appendix A: MAP 1 (Land Use Study - Trenton cut-off)
- Appendix B: TABLE 1 (Population and Percent Change, 1950-2010)
- Appendix C: Recent Testimony of Ronald C. Turner
- Appendix D: Vitae of Ronald C. Turner

1. Purpose of Testimony

The purpose of the testimony is to examine the proposed action of Philadelphia Electric to reconstruct and activate a 230 KV line in Eastern Montgomery County and Central Bucks County. This line, associated with the "Trenton Cutoff", traverses the central part of the county running east/west between Hatboro and Woodbourne. The central question of "What is the appropriate public policy in the face of uncertainty?" will be addressed.

2. The Land Use Context

The proposed line which will be congruent with the existing Conrail line known as the "Trenton Cut-off" traverses Upper Moreland Township, Montgomery County, and terminates at Woodbourne in Bucks County. The line passes through six townships and is proximate to the Boroughs of Hatboro, Bryn Athyn, and Langhorne. (See Appendix A, for a map entitled "Land Use Study - Trenton Cut-Off".)

The townships which contain the proposed transmission line have undergone enormous change over the last forty years. They have shifted from rural and low density communities to flourishing suburbs with intense land uses. The table entitled "Population and Percent Change 1950 - 2210" found in Appendix B depicts the changes that have occurred in the communities contiguous to the line. This region contained 31,285 persons in 1950, by 1990 it contained 161,310 persons, a growth rate of over 400 percent. The communities are expected to continue growing well into the future.

Land uses immediately adjacent to the line include the Eastern Montgomery County Vo Tech School, the Willow Grove Day Camp, Mason's Mill Park, Southampton Industrial Park, clusters of single-family residential developments, Playwicki County Park, Langhorne Country Club and Buehl Field. Forty years ago much of this land was actively farmed and contained few residential public facilities. (A strip map and aerial photographs depicting the line and locations of these land uses will be submitted as an exhibit.)

In summary, the land use patterns around the line have intensified at an extraordinary rate over the past four decades and are expected to continue into the future. This continued urbanization of the large townships is a significant factor in deciding whether or not the Woodbourne-Heaton line should be energized.

3. Scientific Evidence and Public Perception regarding the Impacts of Electromagnetic Fields (EMF).

The public awareness of the linking of electromagnetic fields (EMF) to health was stimulated by a number of the articles that have appeared in the press and magazines. These articles, were of course, a result of the significant amount of research that has been conducted in the area of EMF's over the last two decades. The most current summary that has come into the literature is the report entitled, "Biological Effects of Power Frequency Electromagnetic Fields" produced by the Office of Technology Assessment of the Congress of the United States. This background paper reviewed research that linked, under certain circumstances, electric and magnetic fields with biological changes. The conclusion of that report states that "Emerging evidence no longer allows one to categorically assert there are no risks but it does not provide a basis asserting there is a significant risk." Some researchers conclude that there is a definite link between EMF and health defects, others conclude that there is no relationship. These differences of opinion present citizens and public agencies with dilemmas in regards to action.

The Environmental Protection Agency produced a report in 1990 which suggests a possible link between electromagnetic field exposure and the occurrence of cancer in children; however the report still does not clearly define specific conditions under which this linkage is created. No clear standards have been produced in this regard and to my knowledge the EPA does not intend to produce those standards.

There are many ongoing studies in the area of electromagnetic radiation and its possible health effects. Attached to this memo is a bibliography, as a supplement, which includes references summarizing the results of many studies in this area as well as the nature of studies in progress. Research on electromagnetic radiation and its effects, although not yet conclusive, is extensive and still quite active and does legitimize the concerns of local governments which are entrusted with protecting the public's health, safety, and welfare.

To my knowledge, several states, e.g. New York and Florida, have established standards for strength of electromagnetic fields from high voltage transmission lines<sup>1</sup>.

---

<sup>1</sup>*"Electromagnetic Fields from 60 Hertz Electric Power" published by the Department of Engineering and Public Policy, Carnegie Mellon University*

Standards and guidelines for exposure to power frequency electric fields exist in Britain, Japan, Poland and the Soviet Union<sup>2</sup>.

In parallel with the significant national and international research, public awareness has grown at an extraordinary rate with regard to the exposure of this issue in the popular press. My own research and interviews led me to the conclusion that there is a deep fear among knowledgeable citizens regarding the danger of exposure to all sources of electromagnetic fields. This fear has led to a problem in the selling of residential structures within the adjacent area to transmission line rights-of-way and initial responses to this issue appear in appraisers' seminars<sup>3</sup>. This uncertainty and fear which are now imbedded in the public perception constitute a new reality in the relationship of communities and persons to the sources of electromagnetic fields. As a land use planner, this variable is now a significant element in the planning and regulation of utility transmission lines and public facilities. I anticipate that environmental audits presently used by financial institutions in evaluating properties will soon include relationship to EMF generators like transmission lines. This inclusion would parallel radon tests that are now used as a matter of course in many residential sales. In a recent project where I was involved in a reviewing capacity by a community<sup>4</sup>, a tot lot was removed from beneath a 220 KV transmission line because of the uncertainty of the health effects. Buildings were also set back beyond the right-of-way since both the developer and the community took the extra step in safeguarding public health; even though, as pointed out previously, the evidence is still inconclusive as to the mechanism by which this linkage is effectuated.

4. The Traditional Way of Handling Off-Site EMF Impacts in Township Zoning and Planning Ordinances.

There is a long tradition in township regulation of environmental impacts. Off-site environmental impacts caused by industrial and manufacturing uses have long been considered an area or province for regulation. These ordinances have been prepared

---

<sup>2</sup>*"Electromagnetic Fields from 60 Hertz Electric Power" published by the Department of Engineering and Public Policy, Carnegie Mellon University.*

<sup>3</sup>*Initial evidence suggests value reductions in the range of 15% to 25%.*

<sup>4</sup>*Phoenixville Borough, NPI project, 1990.*

and adopted in Bucks County since the 1950's. In general, they deal with issues of odor, noise, and glare and have in many cases included a section on radioactive emissions and electrical disturbances. The electrical disturbance has generally been relegated to interference in off-site equipment and operations. This would involve interference in the normal operation of radios, television sets, etc., caused by radio transmission or generators of EMF. Health effects are not specifically mentioned in these ordinances since the public awareness of the potential linkage between EMF and health effects has not been in the public consciousness until recently. An example would be the following from the Phoenixville Borough Zoning Ordinance:

"There shall be no electrical disturbance adversely affecting the operation of any equipment beyond the property line of the creator of such disturbance."

In addition, these performance standards mentioned before were generally associated with industrial uses where major equipment and systems were used which could cause off-site impacts. For this reason, I anticipate that the off-site impacts of EMF will fall under local regulation as the public concerns about the health effects grow larger. While PUC regulated functions are generally exempt from the zoning provisions of local municipalities, the off-site impacts might not be. Thus you could have an unusual circumstance where the areas within the rights-of-ways are regulated by the PUC and the external effects would be regulated by the adjacent and surrounding communities.

Recently Upper Providence Township, Delaware County has requested, in light of the current research and concern pertaining to EMF's, that I prepare an ordinance dealing with this issue. This ordinance is now pending in the Township and, while subject to revision and refinement, reflects the concerns of the Township. I would expect that the regulatory stance of communities will begin to shift the burden of proof to the operator of any facility which emits electromagnetic fields and put all such uses as a Conditional Use, subject to municipal review. I also anticipate that standards will be created limiting off-site impacts beyond established rights-of-way. The public policy shift in this matter is clearly shown in the management of public highways. The rights-of-way of federal and state highways were established based on road capacity.

necessary construction standards, shoulders, and the need for grading. The public policy shifted to the fact that the rights-of-way for roads were being breached by the noise emanating from highways. This breaching of the rights-of-way is now being curtailed by the use of soundwalls. In essence, this is a restoration of the original purposes of the right-of-way which were to contain the roadway function. The sound generated from the highways was clearly an interference with the quality of the life of the surrounding residents and extended the highways influence beyond the justified right-of-way.

5. The Impacts of the Proposed Line on Surrounding Uses.

Historically, transmissions lines, with their high towers and their rights-of-ways, have been noted as a disruptive and intrusive land use within suburban communities. This is especially true in residential districts, where as a result of typically low scale development, the tall towers become a dominant element to the landscape, that is out of character with its surrounding uses. Therefore, most of the literature and planning regarding transmissions lines deals with the significant break in scale with surrounding communities and offers means for dealing with this discontinuity. In this case the rail line has existed since the latter part of the 19th century and the towers supporting the electric rail have been there during the period of the rapid urbanization of the rail corridor. Thus, the focus of this analysis will limit itself to the change in public perception and understanding of the suspected linkage of EMF and public health.

The perception supported by the extensive scientific evidence justifies the terming of the transmission line as a nuisance and a nuisance that affects the quality of life for the surrounding residents. In my experience and through interviews it has become clear that the towers are viewed as a threatening element in the lives of community residents and has become a cause for declining values and disinvestment within that same community. In very practical terms, the fear of the health effects created by EMF's provides motivation for families to leave their homes and communities in search of a more safe environment as well as diminishing the marketability of their units falling adjacent to the transmission lines, i.e. disinvestment. The probability of disinvestment is quite real in my opinion since that pattern is generally

associated with perceived nuisances or social and/or environmental impacts that are understood as negative to the persons in question. Disinvestment leads to changes in the land use patterns generally associated with higher density housing, conversions and ultimately as housing of last resorts for persons of moderate or low income.

In summary, until the uncertainty and differences of opinion are settled, one way or the other, there is a high probability that values will decline, disinvestment will occur and changes in land use, which are contrary to local policy and zoning, will result in the areas immediately adjacent to transmission lines.

6. The Concept of Prudent Avoidance and Public Policy Recommendations

The public policy issue is very difficult in this case. As a land use planner we know that in Pennsylvania, the power to zone is granted through the Pennsylvania Municipalities Planning Code (Act 247). Specifically, the purpose of zoning under Section 604 is, among other things, "to promote, protect and facilitate any or all of the following: the public health, safety, morals, and the general welfare:..." The municipality's power to zone, however, is always tempered by the rights of individual property owners; for this reason, land use law has been shaped by numerous cases involving "taking" and equal protection issues. In deciding such cases, the courts often perform, as with nuisance cases, a balancing of equities. They attempt to determine whether the potential threat to health, safety or welfare is greater than the threat to an individual's property rights. The particulars of each case, therefore, are critical to the ultimate legal decision.

The balancing of equities in this case is made more difficult by the fact that we have scientific differences of opinion in regards to the exact nature of the health effects of EMF. In addition, this matter is confounded by the fact that the original corridor, or right-of-way, was established for a rail line and the geometry and width of that right-of-way was conditioned by that function. The overlay of this new use with apparently no significant modifications of that right-of-way is, on the face of it, not responsive to public concerns regarding public health without substantial evidence regarding EMF levels.

Generally, the regulation of potential hazards involves the establishment of limits based on scientific research and measurement. A threshold beyond which detrimental

effects are proven serves as the basis for minimum or maximum standards, with a safety margin added as an extra precaution. In less defined cases such as those involving electromagnetic fields, it becomes much more difficult to establish reasonable guidelines. The scientific evidence with differences in opinions is not yet conclusive enough to form the basis of mandatory regulations. At some future time, however, the evidence may be very clear, and many existing facilities may be forced to reduce exposure or perhaps even relocate, at great expense to their owners and to the public at large.

In the interim it is important for local jurisdictions, which have been given the right and responsibility to regulate in the interest of public health, welfare, and safety, to develop a strategy for dealing with EMF issues in an equitable and reasonable manner. "Prudent avoidance," a term introduced in an extensive study sponsored by the U.S. Congress' Office of Technology Assessment, is one such approach: "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."<sup>5</sup>

The prudent avoidance strategy is implicit in statements by Mays Swicord, chief of the radiation biology branch of the FDA's Center for Devices and Radiological Health:<sup>6</sup>

I don't know of any area of public health where the evidence is completely in....In the absence of data, you use the ALARA (as low as reasonably acceptable) approach, taking into consideration the economic impact.

In other words, prudent avoidance may not justify costly and major rerouting of existing facilities, but it may justify the modest cost of regulating proposed facilities so as to avoid potentially greater future costs: that is, encourage the placement of EMF facilities away from areas where people live and work.

There are a number of reasons why a "prudent avoidance" approach are appropriate to the Woodbourne-Heaton case:

---

<sup>5</sup> U.S. Congress, OTA, *op. cit.*, p. 77.

<sup>6</sup> Institute of Electrical and Electronics Engineers, "Electromagnetic fields: the jury's still out." *IEEE Spectrum* (August, 1990), p. 29.

- The community context of the line has changed radically in the last forty years
- Public concerns and fears have mounted to the point that damage to the values and community life would be avoided by not activating the line.
- The change to a transmission line of the size noted within a right-of-way designed for a rail line is, on the face of it, unsound without additional evidence.
- Would the planners of this line have selected a sixty-foot right-of-way as the appropriate dimension to contain this line given the new information about EMF?
- Is the line absolutely essential for the power system within the region?
- Are there alternatives using more established and wider right-of-ways that could be used in lieu of this intrusion into a rail corridor with mixed uses?
- Given the current concerns and uncertainties would it be more prudent to avoid energizing the proposed line until there is greater evidence available with regard to health effects?

Consequently the prudent avoidance approach would delay the energizing of the line in this corridor because of the proximity of the line to residential and public uses and in so doing would avoid any potentially adverse health impacts for current and future inhabitants residing along the Trenton Cut-Off line.

Ronald C. Turner, AIA, AICP  
Testimony to: Public Utilities Commission  
Commonwealth of Pennsylvania  
RE: Woodbourne-Heaton 230 KV Line

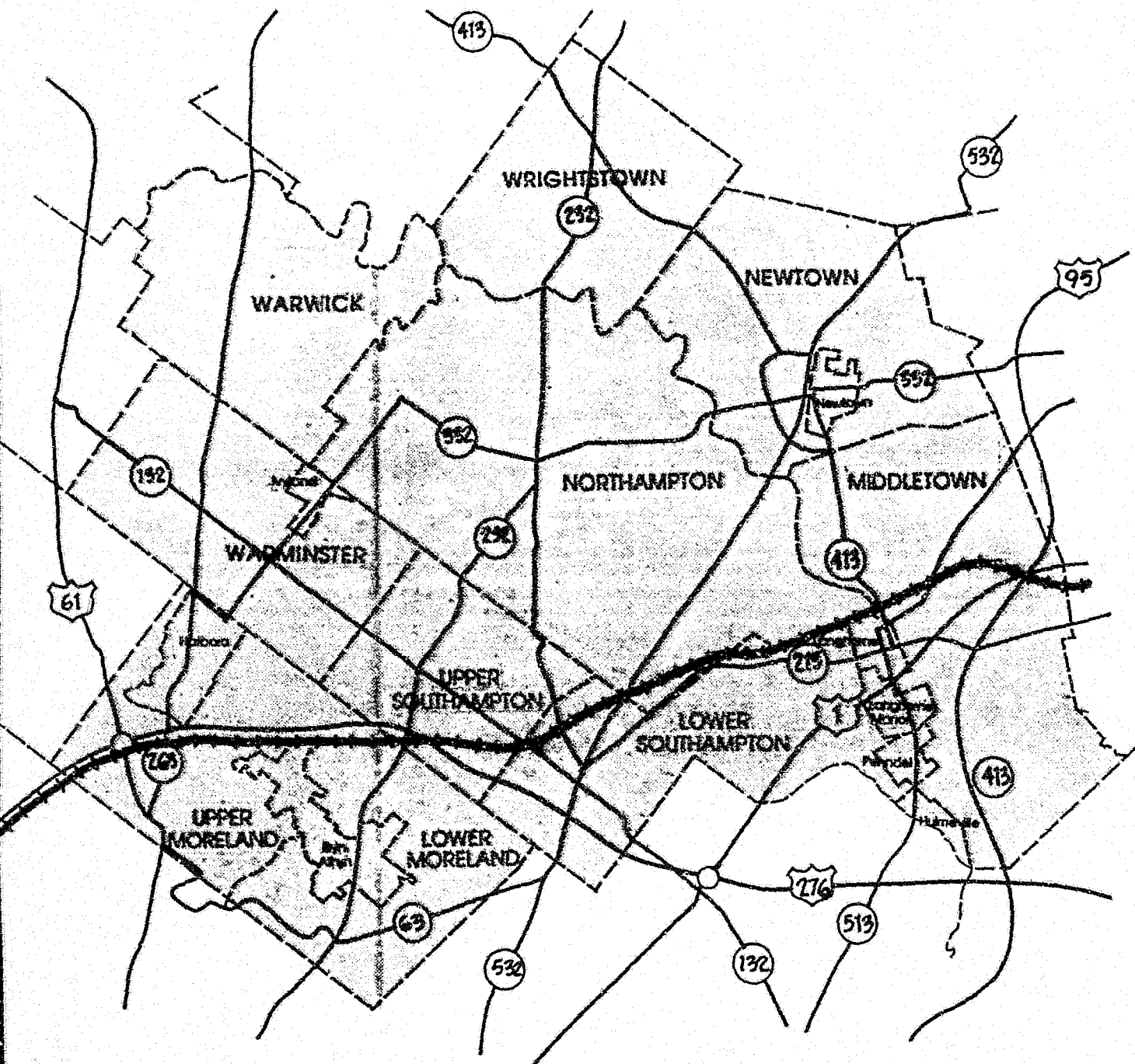
Supplements will be:

1. One (1) strip map of the line depicting adjacent uses.
2. Aerial Photographs, 1950 and 1990.
3. A bibliography of articles on electromagnetic fields and related issues.
4. Examples of current performance and environmental ordinances.
5. Other

## APPENDICES

# APPENDIX A

Land Use Study - Trenton Cut-Off



LAND USE STUDY  
TRENTON CUT-OFF

Ronald C. Turner & Associates

date: September 3, 1991

Scale: 1" = 2 miles



Graphic scale:

## APPENDIX B

Population and Percent Change, 1950-2010

### Population and Percent Change 1950 - 2010

	Census 1950		Census 1960		Census 1970		Census 1980		Census 1990		Census 2000		DVRPC 2010		DVRPC Change 2000 - 2010	%
	1950	1960	1950-1960	% Change	1970	1960-1970	% Change	1980	1970-1980	% Change	1990	1980-1990	% Change	2000		
<b>Montgomery County:</b>																
Bryn Athyn Boro.	913	1,057	15.77%	-8.23%	947	-2.37%	1,081	14.15%	1,100	1.76%	1,100	0.00%	1,100	0.00%	0.00%	
Halboro Boro.	4,788	7,315	52.78%	21.39%	7,579	-14.65%	7,382	-2.60%	7,100	-3.82%	7,100	0.00%	7,100	0.00%	0.00%	
Lower Moreland Twp.	2,245	5,731	155.28%	104.96%	12,472	6.18%	11,768	-5.64%	12,700	7.92%	12,400	-2.36%	12,400	-2.36%		
Upper Moreland Twp.	8,936	21,032	135.36%	18.23%	25,874	4.05%	25,313	-2.17%	25,000	-1.24%	25,000	0.00%	25,000	0.00%		
Montgo. Co. Subregion	16,882	35,135	108.12%	32.24%	46,872	0.88%	45,544	-2.83%	45,900	0.78%	45,600	-0.65%	45,600	-0.65%		
<b>Bucks County:</b>																
Langhorne Boro.	1,579	1,461	-7.47%	14.51%	1,697	1.43%	1,361	-19.80%	1,870	37.40%	1,940	3.74%	1,940	3.74%		
Lower Southampton Twp.	3,562	12,619	254.27%	39.30%	18,305	4.14%	19,860	8.49%	20,800	4.73%	21,120	1.54%	21,120	1.54%		
Middletown Twp.	4,987	26,894	439.28%	20.34%	34,246	5.82%	43,063	25.75%	48,860	13.46%	54,280	11.09%	54,280	11.09%		
Northampton Twp.	2,248	6,006	167.17%	163.19%	27,392	73.29%	35,406	29.26%	48,140	35.97%	56,570	17.51%	56,570	17.51%		
Upper Southampton Twp.	2,027	7,941	291.76%	75.49%	15,806	13.42%	16,076	1.71%	18,450	14.77%	19,030	3.14%	19,030	3.14%		
Bucks Co. Subregion	14,403	54,921	281.32%	48.14%	97,446	19.77%	115,766	18.80%	138,120	19.31%	152,940	10.73%	152,940	10.73%		
<b>Total for Region</b>	<b>31,285</b>	<b>90,056</b>	<b>187.66%</b>	<b>41.93%</b>	<b>144,318</b>	<b>12.91%</b>	<b>161,310</b>	<b>11.77%</b>	<b>184,020</b>	<b>14.06%</b>	<b>198,540</b>	<b>7.89%</b>	<b>198,540</b>	<b>7.89%</b>		

Source:  
1950-1990 Census of Population and Housing.  
2000 - 2010 Forecasts of Population, 1990, 2000, & 2010 Population and Employment Forecasts.  
Delaware Valley Regional Planning Commission, July 1988

## APPENDIX C

Recent Testimony of Ronald C. Turner

Ronald C. Turner  
Recent Testimony

<u>Year</u>	<u>Client</u>	<u>Municipality</u>	<u>Challenge</u>	<u>Issue</u>
1991	D. Gaster	Middletown Twp.	Validity Challenge	Exclusionary Zoning
1991		New Hope Boro.		Cellular Phone Tower
1991	Aston Twp.	Aston Twp.	Curative Amendment	Spot Zoning
1990	A. Jarvis	Parkesburg Boro.	Validity Challenge	Exclusionary Zoning
1990	Charlestown Civic Assoc.	Charlestown Twp. Chester County	Zoning Amendments	
1990/91	D. Gaster	Concord Twp.	Validity Challenge	Exclusionary Zoning
1990	Rouse/- Chamberlin	Tredyffrin Twp.	Validity Challenge	Exclusionary Zoning
1990	Melmark Home	Newtown Twp. Delaware Co.	Conditional Use Hearing	
1990/91	C. deBotton Delaware Co.	Springfield Twp.	Validity Challenge	Ordinance Standards
1989/91	Green Valley Associates	Northampton Twp. Bucks County	Curative Amendment	Exclusionary Zoning
1989/91	Upper Prov- idence Twp.	Upper Providence Twp.	Court of Common Pleas Delaware Co..	Zoning Appeal
1988	R. Bianche	Solebury Twp.	Validity Challenge	Exclusion of Non - conforming use
1988	BVE	Penn Twp.	Curative Amendment	Exclusionary Zoning

## APPENDIX D

Vitae of Ronald C. Turner

RONALD C. TURNER & ASSOCIATES  
PRINCIPAL'S RESUME  
1990

Ronald C. Turner  
247 North Main Street  
P. O. Box 68  
New Hope, Pennsylvania 18938

215-862-0655

Professional Memberships

American Institute of Architects A.I.A.  
American Institute of Certified Planners A.I.C.P.  
Registered Architect, Pennsylvania and New Jersey  
Society of College and University Planners (former member) and  
Professional Planner, N.J. Licensed

Public Service

Bristol Township Planning Commission - former Chairman  
New Hope Planning Commission - former Chairman  
New Hope-Solebury Joint Planning Commission - former Chairman  
Citizen's Advisory Committee to Septa - Vice Chairman  
Regional Land Mapping Project - University Representative  
Program Committee - Community Leadership Seminar, Philadelphia  
- former Chairman  
New Hope Historical Society - Member, Board of Directors  
Bucks County Housing Group - Member, Board of Directors

Education

Bachelor of Architecture, Pratt Institute

Former Academic Positions

Temple University  
1972-1984

Adjunct Professor. Urban Studies - 12  
years of teaching planning courses at  
undergraduate and graduate level.  
Former Director, Applied Research  
Center for Urban Studies. Senior Con-  
sultant, Institute of Public Policy Studies.  
Chairman, Community Information  
System; A project which created a machine  
readable community information system  
and archive containing material directly  
related to the Delaware Valley for Temple  
University.

University of  
Pennsylvania and  
Temple University.  
1979-1980

Former Director of Research.  
Philadelphia Past, Present &  
Future Project. A project which  
established a program of research and  
action for the Philadelphia region.

RONALD C. TURNER & ASSOCIATES  
PRINCIPAL'S RESUME  
1990

Drexel University  
1958-1975

Adjunct Professor. Department of  
Architecture. Instruction of full  
range of design and planning curriculum  
for 25 years.

Past Professional Positions

Betz Environmental Engineers, Inc. (BEE). Vice-President.

Directed and responsible for archi-  
tectural design, planning and social  
and economic studies for 500-person  
national environmental design firm.

Nolen-Swinburne and Associates (NSA), Architects. Senior Associate.

Directed and responsible for architectural  
design and planning for 90-person  
architectural and engineering firm.

Consultant

Willistown Township. (BEE)

Writing of land development  
ordinances.

State of Pennsylvania. (BEE)

Land use implications of storm  
water management.

City of Philadelphia (BEE)

Reuse of industrial structures.

City of Coatesville

Downtown development, parks  
and recreational program, and  
comprehensive plan.

Borough of Phoenixville

Preparation of Comprehensive  
Plan and Zoning Ordinance.  
Continuing consultation.

Upper Providence Township

Preparation of Comprehensive  
Plan and rewriting of Ordinances.  
Continuing consultation.

WILMAPCO

Population and employment study  
regarding future of region (TU)

RONALD C. TURNER & ASSOCIATES  
PRINCIPAL'S RESUME  
1990

Academic Facility Planning

Temple University

Project Planner for the development of the Broad and Montgomery Campus, 1971-72.

University planning representative during the negotiations with North Philadelphia Community. (NSA)

Developer of format for capital program development for all campuses.

Space utilization studies of high-rise office towers.

Conversion study of State Armory for master plan for the Ambler Campus

Policy study for Community development program.

Project designer for science research and computer facilities at main campus.

Study of relationships of research organizations within University structure

Drexel University

Housing study establishing a master plan for the development of University-sponsored housing in Powelton area. (NSA)

University of Pennsylvania

Program development studies and grant applications for Veterinary School and Dental School. (BEE)

Bucks County  
Community College

Master plan of entire campus and design of second development phase. (NSA)

Mercer County  
Community College

Design of campus. (NSA)

University of Hawaii

Site study for community college on Kauai.

RONALD C. TURNER & ASSOCIATES  
PRINCIPAL'S RESUME  
1990

North Carolina Agricultural & Technical Institute, Greensboro, NC	Master plan and policy study (NSA)
State University of New York	Field house design, New Paltz campus (NSA)
School District of Philadelphia	Design and planning for elementary and high schools (NSA)

Principal planner for residential, commercial, and industrial developments in Delaware County and Bucks County. Full range of site analysis, program development, site planning, and feasibility and impact studies.

Headed projects concerning regional community plans involving water quality, environmental conservation, and environmental impact analysis while with Betz Environmental Engineers.

Coordinated scientific and planning departments' activities for many projects in the Delaware Valley region.

Expert witness, experienced in giving testimony on zoning, planning, and environmental matters.

Land Development: Selected Projects

Springfield Township, Delaware County; 880 residential development composed of townhouse and midrise apartments on 60 acre site. Project (Elocin) was litigated.

Newtown Square; Mixed-use development of commercial, industrial, and residential on 200 acres. Project under construction. Represented School for retarded children in Conditional Use Application

Marple Township, Delaware County; Mixed use: residential, office complex and commercial development at intersection of "Blue Route" and Lawrence Road. Site evaluation and planning of 112 acre residential development.

Springfield Township; Two commercial developments comprised of retail and office space, each on 10 acres.

Edgmont Township; Planning for mixed commercial - industrial use development on 60 acres.

Mobile home studies; Design and planning of mobile home park developments on 20 acre and 40 acre sites.

Newtown Township, Bucks County; Planning of townhouse and single-family developments.

RONALD C. TURNER & ASSOCIATES  
PRINCIPAL'S RESUME  
1990

Langhorne, Bucks County; Planning of mid-rise and townhouse development on golf course site. (NSA)

Jupiter Hills, Florida; Planning of mixed residential complex in coordination with golf course. (NSA)

Bristol Township, Bucks County; Studies and planning of multiple sites for commercial and residential developments.

Chester County, Sullivan tract; Planning of large PPD development. (NSA)

Coatesville, Chester County; Review and evaluation of land development proposals for housing for the elderly. These evaluations guided the negotiations and discussions between the city and the developers.

Cheltenham Township; Planned and designed townhouse development on a 5-acre parcel.

Environmental Hearing Board; Presented testimony for industrial concern in opposition to proposed state highway. Opposition based on water supply, traffic, and aesthetic issues.

Eddystone, Pennsylvania; Represented Boeing-Vertol in opposing change of zoning which would have permitted residential use in heavy industrial district.

Zoning; Planning and/or testimony within past three years for projects in New Castle County, Concord Township, Bethel Township, East Marlborough Township, Edgmont Township, Nether Providence Township, Upper Chichester Township.

Developed paper for a group of concerned citizens in Chester County interested in agricultural preservation.

Currently working extensively on housing for the elderly and/or handicapped in projects in Philadelphia, Trenton and Delaware County.

Planned and designed townhouse developments in West Philadelphia, including "University Mews" which was extensively published and also received an award from the Department of Housing and Urban Development.

Designed the Psychology and Speech Building, Temple University, a high-rise office and research facility, housing extensive laboratories and animal facilities. Funded by the General State Authority of Pennsylvania. (NSA)

Designed the City of Philadelphia Environmental Health Laboratory for Eshbach, Glass, Kale and Associates. Facia and columns exhibit early use of weathering steel. Maximum interior flexibility programmed for all types of environmental air and water testing.

RONALD C. TURNER & ASSOCIATES  
PRINCIPAL'S RESUME  
1990

Design for rehabilitation of Civil War Wire Mill for office use Lambertville, New Jersey.

Design of apartment and commercial structure in New Hope, Pennsylvania.

Designs in process for new and rehabilitated structures for commercial, office, and residential use.

Studies in process for economic and reuse analysis of various properties and structures.

Designs in progress for numerous new and rehabilitated residential structures.

Current Activities Selected Projects

Ridley Park, consulting on residential zoning.

Phoenixville, special planning study for change of land use at an abandoned iron works site

Yardley Borough, impact study in preparation for zoning change.

West Whiteland Township, study of historical building for rehabilitation analysis.

New Britain Township, in conjunction with the Bucks County Housing Group, design project for moderately priced housing.

Newtown Township, the planning coordinator for mixed-use commercial development.

Prospect Park Borough, reuse of industrial site.

Upper Pottsgrove Township, land planning for 200 unit site.

Franklin Township, land planning for commercial center.

Philadelphia, housing study for 2,000 (+) unit development on the waterfront.

West Whiteland Township, fiscal impact study.

Penn Township, land planning for 200 (+) unit site.

New Castle County, marina and office building study.

New Castle County, land planning for 190 unit development.

Kent County, PRD development for 220 units.

Bensalem Township, study for 500 (+) unit housing for the elderly.

**OVERSIZE  
DOCUMENT(S)**

Turner Ex #1

MAP —

**OVERSIZE  
DOCUMENT(S)**

Turner Ex # 2

MAP —

**OVERSIZE  
DOCUMENT(S)**

Protestants Ex Turner No-3

**OVERSIZE  
DOCUMENT(S)**

PECO TURNER CROSS Ex #4

~~TURNER Cross Exam Exh 3~~

~~TURNER Cross Exam Exh 4~~

TURNER Exh 3

1 ~~3~~ Large Cardboard Maps

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

SUSANNE I. GIENDEL

KEVIN M. STACK

LEGAL ASSISTANT

NOT ADMITTED TO PRACTICE

IN PENNSYLVANIA

RECEIVED

APR 1 1992

SECRETARY'S OFFICE  
Public Utility Commission

March 24, 1992

Ward L. Smith, Esq  
Crowell & Moring  
1001 Pennsylvania Avenue, NW  
Washington, D.C. 20004

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

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

Paul Bonney, Esq  
Philadelphia Electric Company  
Legal Department  
2301 Market Street  
Philadelphia, PA 19101

Patricia Krise-Burket  
Pennsylvania Public Utility Commission  
Law Bureau  
G-28, North Office Building  
P.O. Box 3265  
Harrisburg, PA 17120

Re: Woodbourne-Heaton Transmission Line; Protestants'  
Exhibits

All Counsel:

Please find enclosed full-sized copies of Protestants' exhibits marked Turners 1, 2, and 3; these are the DVRPC aerial photos and the USGS Quad Survey. Ms. McCloskey kindly offered to utilize the Law Bureau's copies of the DVRPC photos and Ms. Krise-Burket agreed to share them with her. All of the Protestants' exhibits have now been distributed to all counsel; if there are any questions please do not hesitate to call our office.

Thank you for your attention to this matter.

Sincerely,  
*Kenneth J. Sugarman*  
Kenneth J. Sugarman

cc: The Honorable Herbert S. Smolen  
Court Reporter (with ~~two sets of enclosures~~)

cc:\jenina\pau.323

*one copy of each*

*CM*

PUC LATE-FILED EXHIBITS

RECEIVED

APR 1 1992

Docket No. A-110550 F055  
Hearing Date 10-15-91  
Judge Smolen  
Hearing held in Phila  
Exhibit No. P-Turner 1-3  
Reporter Robert Stonaker

RECEIVED

APR 1 1992

1. Above exhibit to be supplied to reporter by:

\_\_\_\_\_

2. Above exhibit to be filed directly with PUC by:

\_\_\_\_\_

Additional Comments: Please add to exhibit file

DOCUMENT  
FOLDER

PUC LATE-FILED EXHIBITS

RECEIVED  
APR 07 1992

Docket No. A-110550 F055  
Hearing Date 10-15-91  
Judge Smolen  
Hearing held in PHILA  
Exhibit Nos ~~PECO Turner Cross 3+4~~ | PECO Turner Cross 3+4  
Reporter Robert J. Stonaker

SECRETARY'S BUREAU  
Information Control Division

1. Above exhibit to be supplied to reporter by:

\_\_\_\_\_

2. Above exhibit to be filed directly with PUC by:

\_\_\_\_\_

Additional Comments: Please add to exhibit file

**OVERSIZE  
DOCUMENT(S)**

PECO Turner CROSS Ex #3

PUC LATE-FILED EXHIBITS

Phila Elec

Docket No. A-110550 F055

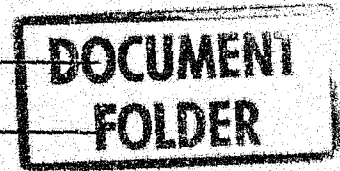
Hearing Date Oct 15, 1991

Judge Smalen

Hearing held in Philadelphia

Exhibit No. 4

Reporter Robert Stonaker



1. Above exhibit to be supplied to reporter by:

\_\_\_\_\_

2. Above exhibit to be filed directly with PUC by:

\_\_\_\_\_

Additional Comments:

*Please add to exhibit file.*

RECEIVED

OCT 31 1991

SECRETARYS OFFICE  
Public Utility Commission

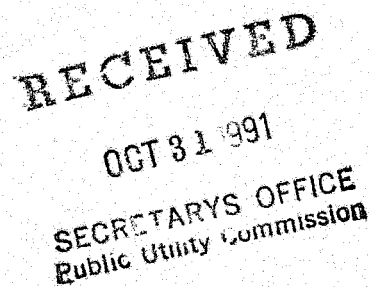
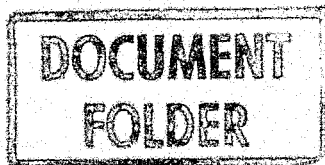
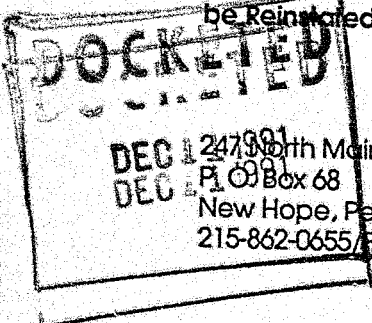
Ronald C. Doner & Associates  
architects and planners

Ex # 4  
Docket # A-110550-  
FO 55

Oct. 15, 1991  
Philadelphia  
BS

## Bibliography: Electromagnetic Fields

- #1  
American Cancer Society. Cancer Response System. No. 2680 Printed on 9/28/90. (Their reference: Clark W. Heath, Jr., M.D., ACS Vice President for Epidemiology and Statistics.)
- #2  
Anna, Daniel H. "Exposure to low frequency electromagnetic fields and cancer development." Professional Safety, November 1989.
- #3  
"Biological Effects of Power Frequency Electric and Magnetic Fields." Background Paper prepared for the Office of Technology Assessment by Indira Nair, M. Granger Morgan and H. Keith Florig. May 1989.
- #4  
"Cancer, power line link gains credence." Chicago Tribune Nation/world. November 30, 1989. (Associated Press)
- #5  
Castelli, Jim. "Studies Reveal Surprising Data." Safety & Health, March 1990.
- #6  
Cody, Thomas P. "Assessing the health risks of electromagnetic fields: the problem of scientific uncertainty in electric power line regulation." Colonial Lawyer. v. 20, Spring 1991: 24-25.
- #7  
Colwell, Peter F. and Kenneth W. Foley. "Electric Transmission Lines and the Selling Price of Residential Property." The Appraisal Journal. October 1979., p. 490-499.
- #8  
Connor, Mary S. "Other States' Laws Governing High Voltage Overhead Lines." Legislative Research (June 12, 1985).
- #9  
DeMerrit, Lynne. "Siting of power lines and communication towers: a bibliography on the potential health effects of electric and magnetic fields." Chicago, Council of Planning Librarians 1990. 27 p. (CPL bibliography no. 257).
- #10  
"Electric and Magnetic Fields." Philadelphia Electric Company position paper. March 1990 update.
- #11  
"EPA Staff Classifies ELF EMFs 'Probable Human Carcinogens' Decision Overruled, May be Reinstated." MicroWave News. Vol. X, No.3 May/June 1990.



#12

Florida Regulations on Electric and Magnetic Fields (Adopted January 18, 1989).

#13

Fitzgerald, Karen. "Electromagnetic fields: the jury's still out." IEEE Spectrum, August 1990.

#14

Glazer, Sarah. "Electromagnetic fields: are they dangerous?" CQ Researcher, no. 16, 1991: 239-251.

#15

"High Voltage Power Lines Impact on Nearby Property Values" International Right of Way Association, February 1991, p. 8-9.

#16

Kinnard, William N., Jr. and Phillip S. Mitchell and James R. Webb. The Impact of High-Voltage Overhead Transmission Lines on the Value of Real Property. April, 1989.

#17

Kirkpatrick, David. "Can Power Line Give You Cancer?" Fortune, December 31, 1990, p.80-85.

#18

Lehman, Jane H. "Magnetic fields draw attention." Chicago Tribune. June 9, 1991, p.p. 1C-2C.

#19

Morgan, Granger, Ph.D. "Electric and Magnetic Fields from 60 Hertz Electric Power: What do we know about possible health risks?" Department of Engineering and Public Policy, Carnegie Mellon University, Pittsburgh, PA 1989. Prepared for the Office of Technology Assessment.

#20

Morgan, Granger, Keith Florig, Indira Nair and Gordon Hester. "Controlling Exposure to Transmission Line Electromagnetic Fields: A regulatory approach that is compatible with the available science." Public Utilities Fortnightly, March 17, 1988. p.p. 49-58.

#21

Morgan, Granger M. "Alternative Responses that Utilities Might Take to the Possible Risks of 60Hz Electromagnetic Fields." Presented at the 1989 EPRI Utility Seminar, Delavan, Wisconsin, September 27-29, 1989.

#22

O'Connor, Sheila. "Some homebuyers expressing concerns about power lines." Realtor News, April 23, 1990, p.p. 7.

#23

Pool, Robert. "Is there an EMF - Cancer Connection?" Science. v. 249, September 7, 1991: 1096-1098; September 21: 1378-1381; October 5: 23-25.

Prepared September 23, 1991

Revised October 16, 1991

Page (2)

#24

"Power-frequency fields: the regulatory dilemma." Issues in Science and Technology, v. 3, Summer 1987: 81-91.

#25

Report of the House Conservation Committee Study of Electro Magnetic Fields Pursuant to House Resolution 38 November 1990.

#26

Savitz, David A., Ph.D. Memo to: Persons concerned about reports of electromagnetic fields and childhood cancer. The University of North Carolina at Chapel Hill. (no date).

#27

Savitz, David A., Howard Wachtel, Frank A. Barnes, Ester M. John and Jiri G. Tvrdek. "Case Control Study of Childhood Cancer and Exposure to 60Hz Magnetic Fields." American Journal of Epidemiology, Vol. 128, No.1, p..21-38.

#28

"Proposed Statement of Interim Policy on Magnetic Fields of Major Electric Transmission Facilities." State of New York - Public Service Commission. Cases 26529 and 26559. (Issued April 26, 1990).

#29

Sykes, Thomas M. and Li, Ping. "Possible Health Effects of Electric and Magnetic Fields from Electric Power Lines: A Summary of Scientific Studies." Washington State Institute for Public Policy (January 1990): 1-39.

#30

"The Future Looks Bright, PP&L Top Executive Says" PP&L News- (04Z241Z) Annual Meeting (According to Mr. McCarthy - this publication refers to the April 1991 annual meeting) Source: Dan McCarthy (215) 774-5758 - (no further publication information provided).

#31

Young, Sherry. "Regulatory and judicial responses to the possibility of biological hazards from electromagnetic fields generated by power lines." Villanova Law Review, v.36, 1991: 129-190.

#32

Zermer, Melanie. "High Voltage Transmission Lines: Health Effects and Government Regulation." Legislative Research; 87:487 (September 27, 1987): Salem, Oregon.

Reviewed after the above articles were compiled:

Liboff, A.R., B.R. McLeod, and S. D. Smith. "Resonance Transport in Membranes." Electromagnetics in Biology and Medicine (San Francisco Press, Inc: San Francisco, CA) 1991

Note: Materials regarding the Pennsylvania Planners Association meeting held October 7, 1991 are attached.

Prepared September 23, 1991

Revised October 16, 1991

Page (3)