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PUBLIC UTILITY COMMISSION

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Public Utility Commission

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Pennsylvania Public Utility Commission, et al. :
 versus Philadelphia Electric Company. : Docket No.
 Investigation into a requested \$660 million : R-850152
 annual rate increase. :

Further hearing.

-----x

pages 3816 through 3938

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

Friday, February 21, 1986

Met, pursuant to adjournment, at 9:55 a.m.

BEFORE:

JOSEPH MATUSCHAK, Administrative Law Judge

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C O N T E N T S

<u>WITNESSES</u>	<u>DIRECT</u>	<u>CROSS</u>	<u>REDIRECT</u>	<u>RE-CROSS</u>
Bruce R. Oliver				
By Mr. Wersan	3819	----	3853	----
By Mr. MacGregor		3822	----	----
By Mr. Kleppinger		3832	----	----
By Mr. Morris		3847	----	----
Stephen L. Feldman				
By Mr. Selkowitz	3855	----	3875	----
By Mr. MacGregor		3857	----	----
By Ms. Chestnut		3861	----	----
By Mr. Kleppinger		3862	----	3876
By Mr. Ryan		3870	----	----
Robert M. Wirtshafter				
By Mr. Selkowitz	3877	----	3928	----
By Mr. MacGregor		3879	----	3934
By Ms. Chestnut		3893	----	3932
By Mr. Wersan		3898	----	----
By Mr. Kleppinger		3899	----	----
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By Mr. Morris		3923	----	----

E X H I B I T S

<u>NUMBER</u>	<u>FOR IDENTIFICATION</u>	<u>IN EVIDENCE</u>
<u>Office of Consumer Advocate</u>		
Statement No. 8 (Oliver)	3820	3821
Schedule BRO-8 (Oliver)	3820	3821
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Statement No. 2 (Feldman)	3856	3856
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P R O C E E D I N G S

1
2 ADMINISTRATIVE LAW JUDGE JOSEPH MATUSCHAK: Is Counsel
3 ready to proceed?

4 MS. CHESTNUT: Your Honor, the Consumer Advocate and
5 his witness have not arrived yet.

6 JUDGE MATUSCHAK: Then we will take a recess until
7 they arrive.

8 (Recess.)

9 JUDGE MATUSCHAK: Before we begin, for those of you
10 who weren't here before, we have been informed that the matter
11 of the Auxiliary Service Rider, the Curtailment HT Rider and
12 the Night Service Rider have been taken out of this case and
13 will be reserved for another proceeding, although the evidence
14 that has been presented in this case may be used in the other
15 case.

16 MR. MacGREGOR: Just one point on the record in response
17 to that, Your Honor. It's the company's understanding that
18 the Commission's order will direct that the parties not
19 proceed further with the Auxiliary Service Rider issue in
20 this proceeding. Based on that the company at this time does
21 not plan to include in its rate structure rebuttal testimony a
22 response to the Auxiliary Service Rider issues, but will
23 present that in the other proceeding.

24 I just wanted to make that clear.

25 JUDGE MATUSCHAK: Very well. I don't have the order

1 itself but an order has been issued --

2 MR. MacGREGOR: I believe it's to be entered today,
3 Your Honor.

4 JUDGE MATUSCHAK: Any testimony that has been entered
5 in this case can be utilized in the other proceeding.

6 MR. WERSAN: Your Honor, the Office of the Consumer
7 Advocate has Mr. Bruce Oliver present. He has not been
8 previously sworn.

9 Whereupon,

10 BRUCE R. OLIVER

11 having been duly sworn, testified as follows:

12 DIRECT EXAMINATION

13 BY MR. WERSAN:

14 Q. Would you please state your name and address for
15 the record?

16 A. My name is Bruce R. Oliver. My address is 1309
17 Juliana Place, Alexandria, Virginia.

18 Q. And on whose behalf are you testifying today, Mr.
19 Oliver?

20 A. The Office of Consumer Advocate.

21 MR. WERSAN: Your Honor, at this time I would like to
22 mark for identification a document entitled Direct Testimony
23 and Exhibits of Bruce R. Oliver, and I would like to mark
24 that as OCA Statement No. 8.

25 JUDGE MATUSCHAK: The motion is granted.

1 (Whereupon, the document was
2 marked as OCA Statement No. 8
3 for identification.)

4 BY MR. WERSAN:

5 Q. Mr. Oliver, do you have before you a copy of a
6 document that has been marked for identification as OCA
7 Statement No. 8?

8 A. I do.

9 Q. And does this document contain your direct
10 testimony and exhibits in this proceeding?

11 A. It does.

12 MR. WERSAN: Your Honor, at this time I would also
13 like to mark for identification as Schedule BRO-8 the
14 supplemental schedules provided by Mr. Oliver to his direct
15 testimony.

16 JUDGE MATUSCHAK: Very well.

17 (Whereupon, the document was
18 marked as OCA Schedule No.
19 BRO-8 for identification.)

20 BY MR. WERSAN:

21 Q. Mr. Oliver, do you have a copy of what has been
22 marked for identification as Schedule BRO-8?

23 A. I do.

24 Q. And does that contain 11 pages of schedules?

25 A. Yes.

Q. Now, were the documents, OCA Statement No. 8 and
Schedule BRO-8, prepared by you or under your direction and

1 supervision?

2 A. They were.

3 Q. If I were to ask you the questions contained in
4 OCA Statement No. 8 would your answers be the same as set
5 forth therein?

6 A. Yes, they would.

7 Q. And would those answers be true and accurate to
8 the best of your knowledge, information and belief?

9 A. They would.

10 Q. I take it you do not have any corrections or
11 additions today?

12 A. I don't think so.

13 MR. WERSAN: Your Honor, I would like to move into
14 evidence OCA Statement No. 8 and Schedule BRO-8 subject to
15 any timely motions to strike.

16 JUDGE MATUSCHAK: Under those conditions the motion
17 is granted.

18 (Whereupon, the documents marked
19 as OCA Statement No. 8 and
20 Schedule BRO-8 were received in
evidence.)

21 MR. WERSAN: Mr. Oliver is available for cross-
22 examination.

23 JUDGE MATUSCHAK: Mr. MacGregor.

24 MR. MacGREGOR: Thank you, Your Honor.
25

CROSS-EXAMINATION

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BY MR. MacGREGOR:

Q Good morning, Mr. Oliver.

A Good morning.

Q Mr. Oliver, am I correct that one portion of your testimony is devoted to opposition to the company's four coincident peak method for the allocation of production and transmission costs?

A That's correct.

Q And you propose an alternative method, which is called the peak and average demand method; is that correct?

A That's correct.

Q You state at page five of your testimony in the paragraph beginning on line 21 that, "In this case the key cost allocation issue is whether substantial portions of the company's investment in Limerick 1 were incurred specifically for the purpose of obtaining energy savings," is that correct?

A That is correct.

Q Would you agree with me, however, that your alternative production and transmission costs allocation proposal is not limited to Limerick 1 but applies to all of the company's production and transmission plant?

A I think it reflects a weighting of Limerick 1's addition to the total.

Q Does your peak and average demand methodology that

1 you propose in this case apply solely to Limerick or does it
2 apply to all PECO generation?

3 A. To all PECO generation.

4 Q. And that other PECO generation includes four
5 nuclear units; is that correct?

6 A. That's correct.

7 Q. And in past rate orders this Commission has
8 allocated the production and transmission costs associated
9 with those units on a four coincident peak methodology?

10 A. That's correct. I believe that the importance
11 of the magnitude of the Limerick investment, of the size of
12 the Limerick investment, in comparison to the total previously
13 existing investment in production plant, however, warrants
14 the Commission's reconsideration of inclusion of energy in
15 this allocation.

16 Q. But not just for Limerick but for all production
17 and transmission plant as well?

18 A. That's correct, although Limerick, given its size,
19 would carry substantial weight.

20 Q. Now, with respect to your allocation of the revenue
21 increase to various classes, am I correct that despite your
22 disagreement with the company over cost of service methodology
23 that as a general matter you have accepted the company's
24 decision to allocate the increase to the various customer
25 classes on an equal percentage basis, including fuel costs,

1 with certain exceptions?

2 A. Given the general magnitude of the increase I
3 don't believe that there is much option on that.

4 Q. You also propose a substantial change to the
5 residential rate design, and specifically you propose to
6 establish essential use provisions in those rates; is that
7 correct?

8 A. That's correct.

9 Q. Am I correct that you have established three
10 categories of essential use: basic use, water heating and
11 space heating?

12 A. That's correct.

13 Q. And for each of those you assign certain kilowatt
14 hours of essential use, that being 350 kilowatt hours for
15 basic use, an additional 350 kilowatt hours per month for
16 water heating and then, I believe, an additional 700 KWH
17 per month for space heating?

18 A. Yes, that's correct. Those figures were developed
19 based on an assessment of the estimates of the typical
20 kilowatt hour consumption for those major types of uses.

21 Q. And for those essential uses you would propose
22 less of an increase in the rates than for the other blocks
23 in the class?

24 A. That's correct.

25 Q. Am I correct that under your proposal there is

1 no income test applicable? In other words, the rates would
2 apply to all customers regardless of income level?

3 A. That is correct.

4 Q. Have you performed any study yourself, Mr. Oliver,
5 on the relationship of income to usage levels?

6 A. Not specifically for this case.

7 Q. Have you performed any study of usage levels with
8 respect to those Philadelphia Electric Company customers who
9 are having trouble or who have been delinquent in paying
10 their bills?

11 A. I have reviewed data and testimony of other
12 parties but I have not performed an independent analysis.

13 Q. Mr. Oliver, I believe you indicate on page three
14 of your testimony, line eight, that you testified in a
15 Pennsylvania Power & Light Company rate structure investiga-
16 tion at Docket No. I-830374; is that correct?

17 A. I did.

18 Q. Am I correct that you proposed similar essential
19 use provisions for PP&L's residential rates in that proceeding?

20 A. That's correct.

21 Q. Am I correct, Mr. Oliver, that the Commission
22 rejected that proposal in its final order?

23 A. Yes, that is correct. I believe that given, once
24 again, the magnitude of the increase in this case, the greater
25 proportion of residential customers who are below 150 percent.

1 of the poverty level, as I believe was indicated in Mr.
2 Grier's testimony, and the higher rates that are already
3 charged in the PECO service territory compared to the PP&L
4 service territory that the need for such a rate is even more
5 pressing here than it was in PP&L's case.

6 Q Have you reviewed the Commission's order in that
7 rate structure investigation, Mr. Oliver?

8 A I did.

9 Q I would like to show you a portion of it. I have
10 the entire order if you would like to see it.

11 I just want to read a portion of this to you and ask
12 if you have reviewed that and if you have any comment on it.

13 (Document handed to witness.)

14 Q First of all, at the bottom of page nine the
15 Commission references OCA Proposal 3. I take it that was
16 your proposal to establish .. essential use blocks for
17 PP&L's rates?

18 A I don't recall directly what Proposal 3 was at
19 this time. I would anticipate that that's what it was but
20 I don't recall how it was labelled.

21 Q If you would read at the bottom of page nine and
22 going over to the top of page ten it says, "Under OCA's
23 proposal basic use customers would receive bill reductions
24 for usage below 500 kilowatt hours monthly," and essentially
25 carries on to the end of the sentence. That was essentially

1 your proposal in that case; is that correct?

2 A. Yes.

3 Q. Would you agree with me that beginning in the first
4 full paragraph on line ten the Commission states, "Notwith-
5 standing the OCA's argument raised in its exceptions that
6 the comparison of income to usage must reflect customers with
7 the same major household appliance profile, we are not
8 convinced that the relationship between income and electric
9 consumption is sufficient enough to enable us to adopt a
10 proposal which is premised upon this correlation.

11 "Although the OCA has made a valiant effort to refine
12 the component of electrical consumption by focusing on house-
13 hold appliances of the customers, we remain of the opinion
14 that there are other characteristics, such as the number of
15 persons in the household, the age of the persons in the
16 household, the number of hours during the day that household
17 members are at home and the level of insulation in the
18 dwelling, to name a few, which obviously will affect
19 electrical consumption.

20 "In this regard we concur in the conclusion of the
21 ALJ and PP&L that the relationship between income and
22 electric consumption as a statistical measure for purposes
23 of inferential prediction is too inconclusive at this
24 point to be a reliable barometer of the electrical
25 consumption habits of low income and fixed income PP&L

1 customers vis-a-vis higher income customers of PP&L.

2 Therefore, the proposals of Trial Staff and the OCA, which
3 are both predicated upon this relationship, must be rejected."

4 Do you see that reference, Mr. Oliver?

5 A. I believe we all read through it; yes.

6 Q. Now, the order goes on to reference a recent study
7 by the Bureau of Consumer Services on page 11, the first
8 paragraph below the quote. Have you reviewed that study,
9 Mr. Oliver?

10 A. I believe I have. Just by the title, "Final
11 Report", I don't --

12 Q. I'm sorry. I believe Final Report is a citation
13 to the above quotation.

14 A. Citing the 1976 generic rate structure investiga-
15 tion?

16 Q. Yes. In going on I'm referring to, "In a
17 recent study by the Bureau of Consumer Services," which is
18 not referenced in the final report. Have you reviewed that
19 Bureau of Consumer Services study?

20 A. The reference, "a recent study," I'm not really
21 sure what it's referring to. But I have reviewed several
22 pieces that were released by the Bureau of Consumer Services
23 in that case and I would anticipate that the reference there
24 is to one of the studies I reviewed, yes.

25 Q. So you have reviewed those?

1 A. There were several studies prepared by Penn State
2 University, for example, relating to these types of issues,
3 particularly customer payment problems and the Commission's
4 processing of customer payment problems and the Commission
5 Staff's ability to handle and interface with both the customers
6 and the utilities.

7 Q. Would you agree with me that with respect to that
8 study the Commission states, "In a recent study by the Bureau
9 of Consumer Services it was shown that payment troubled
10 customers generally use more electricity than average
11 residential utility customers. It is our opinion, and we so
12 find, that the Staff and the OCA proposed rate design
13 modifications have one fatal flaw: that is, they would in
14 some cases hurt those low income customers who need help and
15 would benefit some affluent customers who have absolutely
16 no need for the benefit. Seeing no need to consider this
17 matter again in rate proceedings, we reject the ALJ's
18 recommendation that we do so."

19 Do you see that reference, Mr. Oliver?

20 A. I see that reference. I do not agree with that
21 assessment.

22 There were specific proposals within what we presented
23 that recognized the fact that a few -- and the numbers in the
24 PP&L case really indicate a very few customers -- customers
25 would be in a situation where they might be higher increases

1 and we specifically proposed that the programs such as
2 fuel assistance programs that help customers pay for their
3 electric bills, that help heating customers pay for their
4 high electric bills during the winter months, be increased.
5 So it was a dual pronged approach and a good part of my
6 testimony went to the dual aspect of that proposal.

7 We were not proposing to hurt any low income customers.

8 Q. Have you made a dual proposal in this case, Mr.
9 Oliver?

10 A. I think the company in this case has already
11 indicated that they have such programs in place and I believe
12 under cross-examination Mr. Williams indicated that the
13 company has already considered putting more money into those
14 programs.

15 Q. And have you reviewed those programs?

16 A. Yes.

17 Q. And you believe they are adequate and sufficient
18 at this time?

19 A. Not by themselves.

20 Q. So they are not sufficient in your opinion? Yet
21 you're making --

22 A. Not to deal with the totality of the problem.

23 Q. And you're not making a further proposal?

24 A. They would be, I believe, sufficient to deal with
25 those customers who would be adversely affected -- those

1 low income customers -- who would be adversely affected by
2 the potential for higher increases -- excuse me -- relatively
3 higher increases under the essential use rate.

4 But once again, nobody under our proposal would get
5 a higher increase than that which the company has already
6 proposed. It would be a question of how the decreases in
7 the revenue requirement were distributed.

8 Q I understand that.

9 A And certainly, if the company's additional funds
10 were adequate to deal with the problems that would result
11 from their total proposal, they should be sufficient if we
12 reduce the overall level of the increase regardless of how
13 that is spread among the blocks within the residential class.

14 Q Was the other aspect of your dual proposal adopted
15 by the Commission in the PP&L case?

16 A Well, those programs were continued. The Commission
17 did take action to significantly increase the company's
18 weatherization activities which, by the way, the company has
19 recently submitted along with a request for minor modifications
20 of that program some evidence to show that the weatherization
21 aspects of that program have had substantial results. For
22 full weatherization of single family homes, my understanding
23 is that they indicate that they have been able to reduce
24 through weatherization activities customers' consumptions by
25 as much as 3,400 kilowatt hours a year.

1 Q. But apparently in the PP&L case the Commission
2 did not believe that that protection was enough to justify
3 adoption of your proposal for essential use rates in the
4 residential class; is that correct?

5 A. Well, once again, I --

6 Q. Could you answer the question?

7 A. Yes, but once again I would recognize that we
8 were starting at much lower initial rates and that we are
9 starting at much higher rates and with a much more depressed
10 residential service area.

11 MR. MacGREGOR: Thank you, Mr. Oliver.

12 That's all I have, Your Honor.

13 JUDGE MATUSCHAK: Commission Staff?

14 MS. CHESTNUT: No questions, Your Honor.

15 JUDGE MATUSCHAK: Does any other party wish to cross-
16 examine this witness?

17 MR. KLEPPINGER: Yes, Your Honor.

18 JUDGE MATUSCHAK: Mr. Kleppinger.

19 CROSS-EXAMINATION

20 BY MR. KLEPPINGER:

21 Q. Good morning, Mr. Oliver.

22 A. Good morning.

23 Q. Could you turn for a moment to page four of your
24 testimony, lines 11 and 12? You state there that the
25 Company's proposed allocation in your mind is inconsistent

1 with system planning criteria regarding plant type decisions.

2 Now, elsewhere in your testimony you recognize the
3 difference between a plant type decision and a plant size
4 decision; is that correct?

5 A. That's correct.

6 Q. Is it necessarily the fact that the company's
7 proposed allocation is inconsistent with system planning
8 criteria regarding plant size?

9 A. Well, that's only part of the investment and to
10 the extent that the allocation is applied to the total
11 investment, it's still inconsistent.

12 Q. Well, on page four you specifically say it's
13 inconsistent with plant type.

14 A. Right.

15 Q. Now, that is half of the equation also, is it
16 not?

17 A. It's not half. It's a fraction of it.

18 Q. Okay. A fraction.

19 And is it your testimony today that that allocation
20 is also inconsistent with system planning criteria
21 regarding plant size decisions?

22 A. If you identify the portion of the investment that
23 is related to meeting peak requirements, that is reasonably
24 allocated on a four CP basis. But that is not by any means
25 the total company investment in production facilities.

1 Q. I understand that that's your position.

2 Now, would you agree with the presumption that when
3 Limerick 1 was initially planned by Philadelphia Electric
4 Company that Philadelphia Electric Company believed that
5 based on their load growth projections an 1,150 megawatt
6 unit was needed for meeting that load growth?

7 A. Yes.

8 Q. And it was that belief by PECO, was it not, which
9 led them to the decision that they needed capacity?

10 A. If I could just clarify my last answer, they
11 needed 1,150 megawatts but not necessarily a single 1,150
12 megawatt unit.

13 Q. Okay.

14 A. I'm sorry. I just wanted to make sure that I
15 was clear on that answer.

16 Could I have the last question again?

17 Q. I can repeat.

18 The last question, then, was that based on that
19 presumption PECO's initial decision back in the planning
20 stages was that it indeed needed capacity? That was their
21 belief?

22 A. That's correct. The planning process starts
23 with the forecasting of energy from which they estimate
24 demand requirements, and the demand requirements projected
25 out in the future provide an indication of the additional

1 capacity that will be required and the approximate lead
2 time for bringing that capacity on line.

3 Q. Now, after that decision was made I take it
4 in the system planning process a second decision has to be
5 made as to what type of capacity should be used for this
6 1,150 megawatts, either one unit, multiple units, nuclear
7 or coal, whatever?

8 A. That's correct.

9 Q. When making that second decision is it typical
10 system planning and rational system planning for a utility
11 to review the capital costs and the operating costs of the
12 various types of alternatives available to it for generating
13 capacity?

14 A. Yes, it is. Generally that's done by projecting
15 both the capital and operating costs over a period of time
16 and taking a present value of the revenue requirements
17 associated with that. That would give weight to both the
18 need or the costs associated with capacity and the energy-
19 related benefits from those facilities.

20 Q. And that type of analysis presents a total cost
21 approach and a total benefit approach of the various
22 generation planning alternatives; is that correct?

23 A. From the utility's perspective. It's not a
24 societal analysis.

25 Q. Now, in the context of your testimony as presented

1 in this case, I take it you have not gone back to those
2 initial planning stages of PECO and identified specific
3 capital and operating costs of the alternatives available to
4 PECO at the time Limerick 1 was initially being planned;
5 is that true?

6 A. That's correct. I don't believe that's necessary
7 or appropriate.

8 Q. And, indeed, you focus in your testimony on a
9 peaking unit with a capital cost of some \$267 per KW;
10 is that correct?

11 A. I don't know what you mean by "focus". I do
12 reference that.

13 Q. You reference that.

14 A. It's not the basis for my allocations. I just
15 use that to demonstrate that great significance of the
16 energy-related portion of the investment in Limerick. I
17 mean, it's like 13 times more that the company has spent to
18 produce the energy cost savings which flow primarily to
19 the large high load factor customers.

20 Q. You have not included in your testimony, have you,
21 an estimate of the capital cost of Limerick 1 when it was
22 initially planned or the capital cost of a comparable
23 combustion turbine in those initial planning stages; is
24 that correct?

25 A. No, I have not and if you were going to go back

1 and look at that data you would not look just at the capital
2 costs but you would also go back and look at the fuel costs
3 that were perceived at that time as well as the cost of
4 capital.

5 Q And those operating costs that you have just
6 referenced are also not contained in your analysis here?
7 You just haven't done that historical review; is that a
8 fair assumption?

9 A That's correct. I didn't feel that that was
10 necessary or appropriate.

11 Q On page 13, line 10, you begin a clause by saying
12 that, "if PECO was only concerned with having sufficient
13 capacity available to meet peak requirements on a few high
14 load days each year, it could have installed an equivalent
15 amount of combustion turbine capacity."

16 Do you see that reference?

17 A I do.

18 Q Have you reviewed PECO's load forecasts from the
19 planning stages of Limerick 1 to identify whether or not that
20 actually was PECO's concern? Or could you tell us whether
21 their concern was more in terms of general load growth and
22 not only growth in the few peak hours; as you reference
23 them?

24 A I have reviewed a number of PECO load forecasts
25 over time. I don't recall if I specifically reviewed the

1 load forecasts which were part of the Limerick 1 investigation,
2 if that's what you're referencing. But it's my understanding
3 from reviewing numerous documents associated with the
4 Limerick investigations that energy was always a consideration,
5 a major consideration, in the decision in terms of what type
6 of unit to build.

7 Q But you can't tell us today whether or not it
8 was PECO's perception in the early '70s that it needed this
9 capital addition for only a few high load days or for general
10 load growth in that their base load was increasing?

11 A It's my perception that it was never perceived
12 to be needed just to meet -- that the cost of Limerick as a
13 nuclear plant was never perceived to be needed to meet just
14 load on a few peak days.

15 Now, I have been doing analyses of utility costs for
16 quite a while and as far back as I have been involved you
17 can never justify investment in a nuclear plant for use a
18 few days of the year. In fact, technically, you can't
19 operate a nuclear plant with any efficiency for just a few
20 hours or a few days each year.

21 Q Your testimony continues, then, on page 14, at
22 lines 17 and 18, to state that, "Customers should bear
23 responsibility for those costs," referring to capital
24 costs, I believe, "in proportion to the benefits they derive
25 from those investments," is that correct?

1 A. That's correct.

2 Q. Now, is the converse of that also true in that
3 the benefits received as a result of those capital costs
4 should also be assigned in proportion to their costs?

5 A. I think the existing ECR mechanism, for example,
6 does much more closely provide that matching.

7 Q. And that ECR mechanism, as I understand it, would
8 distribute those benefits on an equal cent per kilowatt
9 hour basis to all customers; is that correct?

10 A. That's correct.

11 Q. Now, I think you recognized earlier this morning
12 in response to an earlier question of mine that basically
13 the cost responsibility on the capital cost side which you
14 have assigned --

15 A. I would just like to note that in addition to
16 the ECR you do have the time of day credits and surcharges,
17 positives and negatives, for on-peak and off-peak use that
18 do tend to reflect other variations as well.

19 Q. Earlier today in response to a question of mine
20 I believe you had indicated that in your view the high use
21 high load factor classes are obtaining more benefits from
22 Limerick 1 than other customer classes. Am I also correct
23 that under your cost responsibility assignment you then have
24 assigned a higher than average capital cost to those same
25 customer types? That's the effect of your cost allocation?

1 A. No, I don't believe that is correct. In terms
2 of cost per KW? No, that's not correct.

3 Q. Have you assigned a greater percentage of the
4 capital costs of Limerick I and -- well, essentially, all
5 generating capacity -- to the higher use higher load factor
6 classes than PECO's method?

7 A. Well, you have to look at the components of the
8 peak and average allocation. Within each of those components
9 they are allocated on an equal cost per unit basis. Within
10 the peak component each peak demand, each kilowatt or
11 megawatt of peak demand, gets an equal dollar allocation.
12 Within the energy or average demand portion of that allocation
13 each kilowatt hour gets an equal cents per kilowatt hour
14 or dollar per kilowatt hour allocation.

15 Q. In terms of total dollars, Mr. Oliver -- and
16 maybe my question wasn't framed quite properly -- you have
17 assigned greater cost responsibility to high use high load
18 factor classes than what PECO's method does?

19 A. That's correct.

20 Q. And part of the justification for that assignment
21 in your mind is that there is a mismatching of the costs and
22 benefits in PECO's method; correct?

23 A. Most definitely.

24 Q. Now, according to -- are you familiar with the
25 other testimony presented by the OCA in this case on revenue

1 requirements in general terms?

2 A. In very general terms.

3 Q. Is it your understanding that that testimony
4 indicates that over the life of Limerick 1, at least, there
5 are no net benefits, in fact, negative net benefits?

6 A. I believe that's correct.

7 Q. And under your allocation scheme would I be
8 correct that those negative net benefits are being allocated
9 on a heavily energy weighted basis?

10 A. No. That is a present value negative net benefit
11 over the full life of the unit. Under, for example, the
12 proposal that the company has presented there are positive
13 net benefits in terms of lower fuel costs flowing to
14 customers' energy use and those customers who use large amounts
15 of energy receive substantial benefit now from lower fuel
16 costs.

17 On the other hand, customers who bear the costs of the
18 capital investment under the company's methodology bear those
19 costs now, starting as soon as the rates go into effect, and
20 may not receive any benefit or at least not benefit in
21 proportion to the additional costs that they are carrying.

22 Q. Those positive net benefits which are flowing
23 back, I take it, currently or in the near-term, still are
24 not outweighing the costs that are being assigned to those
25 comparable classes?

1 A. In aggregate overall classes, that's correct.

2 Q. Could you turn to page 15 of your testimony,
3 lines 11 through 17? There you indicate that you believe
4 significant portions of the company's recent investments
5 are clearly in excess of those required simply to meet
6 peak requirements.

7 By "recent investments" there are you including
8 investments other than Limerick 1?

9 A. Limerick 1 is the major recent investment.

10 Q. Right. And are there other recent investments
11 you had in mind when you wrote that piece?

12 A. Well, there would be transmission associated with
13 the installation of that plant. I think there may be some
14 other 500 KV kinds of transmission installations.

15 (Pause.)

16 A. I would just note that I think the company has
17 provided documentation as to substantial transmission
18 investment that has occurred over the last few years.

19 Q. But in terms of recent investments in generating
20 plant, you're really referring to Limerick 1 in that
21 quotation, are you not?

22 A. That's right.

23 Q. Now, turning to your peak and average method in
24 perhaps a little more detail, in your mind the peak and
25 average method is not equivalent, is it, to the standard

1 average and excess method?

2 A. Absolutely not.

3 Q. Have you had the opportunity to review the
4 testimony of Mr. Sterzinger in this case?

5 A. Briefly.

6 Q. And did you review the allocation factors which
7 he developed in his Exhibit 1?

8 A. I don't recall that.

9 Q. Would you agree subject to check that those
10 allocation factors are identical to the allocation factors
11 which you have developed for each of your customer classes?

12 A. Subject to check. I mean, I have an exhibit --
13 my Schedule BRO-1 shows very clearly how my factors were
14 developed and anybody could compare the two.

15 Q. You would not call your allocators, however,
16 average and excess allocators; is that true?

17 A. Generally that's a semantic difference. I would
18 not. I like the term peak and average, although I would
19 note, for example, the New Jersey Board of Public Utilities
20 has adopted the same methodology and called it a modified
21 average and excess.

22 Q. Now, when they talk about modified average and
23 excess, they use the term modified, do they not, because
24 their average and excess method does not conform with the
25 NARUC standard average and excess method?

1 A. I'm not sure that there is something that is
 2 labeled NARUC standard average and excess. There is an
 3 average and excess approach that is presented in the NARUC
 4 manual. However, within the context of the Atlantic Electric
 5 proceeding in which the New Jersey Commission clearly
 6 rejected the old standard average and excess method, if you
 7 want to call it that, the NARUC average and excess method,
 8 and adopted the modified average and excess method, there
 9 were actually seven different variants on average and excess
 10 presented in that case by various parties and this method
 11 was chosen as being superior to all of the others, and a
 12 very clear determination was made on that.

13 Q. You referenced Schedule BRO-1. Could you turn to
 14 that schedule, please?

15 A. Yes.

16 Q. You have a column there, Column 3, labeled Load
 17 Factor. What load factor is that?

18 A. That is a load factor derived by dividing average
 19 demand based on the test year kilowatt hours as reflected in
 20 the company's allocation factors by the average of the four
 21 CP demands.

22 Q. So it's not a system annual load factor, is that
 23 correct, for PECO?

24 A. It is an annual load factor, yes.

25 Q. Is it the way a utility would typically calculate

1 its system annual load factor?

2 A. I'm not sure in all instances what you mean by
3 "typical". It is a -- it certainly uses that same algorithm,
4 taking average demand and dividing it by a measure of
5 peak demand.

6 Q. But the measure of peak demand is the average of
7 four coincident peaks, not the company's single coincident
8 peak; is that correct?

9 A. That's correct. But I don't believe that you can
10 consistently use a single peak measure for determining load
11 factor and then allocate on a four CP basis. I believe that
12 this Commission has consistently rejected uses of a single
13 CP measure for allocation in preference for those that
14 reflect consideration of more than one peak.

15 Q. On a class basis does any class of PECO have a
16 load factor of 64 percent on an annual basis?

17 A. I don't know that I have specifically made that
18 calculation but I would tend to assume that there must be
19 some classes that do, yes.

20 Q. Do you have with you WFS-1?

21 A. I'm not sure I do.

22 (Document handed to witness.)

23 Q. Would you turn to page 63 of that exhibit?

24 A. Yes.

25 Q. Am I correct that on an annual system load factor

1 calculation utilizing the maximum diversified demand,
2 which is referenced in the first set of figures, that the
3 highest load factor for any class is the HT class at 63
4 percent?

5 A. Well, yes. And once again, that's the difference
6 between using a single peak measure and using the average of
7 four CPs.

8 Q. I understand.

9 Now, so that I can understand how you developed the
10 actual allocator in Column 9 I would like you to --

11 A. Excuse me. You're referring to --

12 Q. Back to BRO-1. I'm sorry.

13 A. Okay.

14 Q. I would like to try to identify what the
15 calculations actually were, and correct me if my description
16 is incorrect.

17 First you took class megawatt hours at the generation
18 level as a percent of the system megawatt hours; is that
19 correct?

20 A. I did use that. I don't know if I did that
21 first necessarily.

22 Q. Okay. But that's how you generated the percentage
23 figure in Column 2; is that right?

24 A. That's correct.

25 Q. And then you multiplied that percentage figure

1 by 64.1 percent?

2 A. That's correct.

3 Q. Now that is, I guess, a portion of your allocation
4 methodology. Then you also took the average of the four
5 peaks of the classes as a percent of the system four
6 coincident peaks; is that correct?

7 A. That's correct.

8 Q. And then that percentage was again multiplied by
9 another percentage of 35.9 percent?

10 A. Reflecting one minus the load factor.

11 Q. And that yielded Column 8; is that true?

12 A. Yes. That's the weighted peak portion of the
13 allocation.

14 Q. And then you added the percentage that you had
15 developed on the kilowatt hours and the percentage you had
16 developed on the peak to get your peak and average allocators?

17 A. That's correct.

18 MR. KLEPPINGER: Thank you, Mr. Oliver.

19 I have no further questions, Your Honor.

20 JUDGE MATUSCHAK: Any further cross-examination of
21 this witness?

22 MR. MORRIS: Yes, Your Honor.

23 CROSS-EXAMINATION

24 BY MR. MORRIS:

25 Q. Good morning, Mr. Oliver.

1 A. Good morning.

2 Q. I'm Tom Morris. I have a few questions on behalf
3 of SEPTA and Amtrak.

4 I would like to ask you a few more questions about
5 your distinction between the amount and type of generating
6 capacity in your testimony. You apply that distinction, do
7 you not, to say that the type of generating capacity that
8 was added with Limerick was much more expensive on a per
9 kilowatt basis than other alternatives that might have been
10 used to achieve the same amount of capacity?

11 A. That's correct. I wouldn't say it was necessarily
12 more expensive than all other alternatives, but it was
13 certainly more expensive than the combustion turbine
14 capacity which could have satisfied just a peak demand
15 requirement.

16 Q. And the extra costs of this type of capacity,
17 referring to Limerick type, have been incurred for the
18 most part to achieve energy savings in your view?

19 A. Yes.

20 Q. And isn't it also your testimony that customers
21 should bear responsibility for these plant costs in
22 proportion to the benefits they receive from the type of
23 plant capacity that is installed?

24 A. Essentially, yes.

25 Q. And by the same token, customers receiving more

1 benefits from this type of capacity should bear more of
2 the costs and customers receiving less benefits should
3 bear less of the costs?

4 A. I think that's the general gist of it, yes.

5 Q. And the way you specifically apply this, you
6 recommend that these plant costs in part should be allocated
7 on an energy basis?

8 A. On an average demand basis, yes.

9 Q. Just so we are clear, is one of your essential
10 objectives in your cost of service study that PECO plant
11 costs in part -- let me rephrase that. Isn't it accurate
12 that one of your essential objectives is to allocate PECO
13 plant costs in part on the basis of energy that's consumed
14 by customers from those plants?

15 A. Well, the essential objective is to better
16 reflect the planning process and the reasons for which the
17 costs were incurred.

18 Q. And those are the costs associated with those
19 plants that were built as a result of those capacity
20 planning decisions?

21 A. That's correct.

22 Q. Now, if a customer receives energy from outside
23 of PECO's service territory would you allocate PECO's
24 production plant costs on the basis of that energy which is
25 received from outside of the service territory?

1 A. I believe it would depend on the circumstances.
2 PECO frequently imports, or has in the past imported,
3 substantial amounts of energy because other utilities could
4 provide energy at lower incremental costs than they could.
5 The plant was still there and was still designed to meet
6 both energy and demand requirements. That doesn't alter --
7 that consideration would not alter my allocation of the
8 plant costs.

9 Q. My question is if a customer received energy from
10 outside of PECO's service territory, not whether PECO
11 received it. But if a customer receives energy from outside
12 of PECO's service territory would you allocate -- and we
13 are talking about the energy-based allocation -- would you
14 allocate production plant costs on the basis of that energy?

15 A. I guess I'm not clear how you distinguish a
16 customer receiving energy. My understanding is that any
17 customer taking service from PECO facilities would receive a
18 kilowatt hour of energy and certainly you cannot distinguish
19 where that kilowatt hour is derived from.

20 Q. Are you familiar with the special circumstances
21 by which power is delivered to Amtrak at Thorndale and
22 Perryville?

23 A. Not particularly, no.

24 Q. May I suggest and would you accept for present
25 discussion the following assumptions: that Amtrak receives

1 a substantial portion of its power at these Thorndale and
2 Perryville delivery points and that PECO has no other
3 facilities at those points other than metering and that in
4 fact that power comes in from outside of PECO's territory
5 from the Safe Harbor hydroelectric plant.

6 I would like you to further assume, if you would, that
7 this power is 25 hertz power and that there is no other
8 customer besides SEPTA in PECO's service territory that
9 receives 25 hertz power.

10 MR. WERSAN: Your Honor, I think I'm going to object
11 at this time. If Mr. Morris wants to cross Mr. Oliver on
12 what's in his testimony that's fine. But to cross on what's
13 in Mr. Rudden's testimony or what's going to be in PECO's
14 rebuttal testimony, I think I'm going to have to object to
15 that.

16 JUDGE MATUSCHAK: Yes. I think that is part of your
17 case. You can't prove your case through cross-examination.
18 I will sustain the objection.

19 MR. WERSAN: Thank you, Your Honor.

20 BY MR. MORRIS:

21 Q May I ask you this question: did you in any way
22 take into account in the development of your cost of service
23 study a circumstance similar to which I have described of
24 a customer receiving power from outside PECO's service
25 territory?

1 A. Well, in the company's cost allocations there
2 were some specific modifications made for SEPTA and Amtrak
3 for specific assignments of plant costs, and I took great
4 pains to make sure that in the allocations that I developed,
5 even though I was looking at those two classes as one
6 category frankly because I was not as much concerned with
7 their allocations and I didn't have room on the page to
8 add another column for display purposes, I made sure that
9 all specific allocations made by the company were properly
10 reflected in the allocations that I presented.

11 MR. MORRIS: May I have a moment, Your Honor?

12 (Pause.)

13 BY MR. MORRIS:

14 Q. What kind of allocation are you talking about,
15 production and transmission or distribution?

16 A. I have to go back through. There were a number
17 of specific allocations. I don't recall what each one was
18 off-hand.

19 Q. But in your allocation of production and
20 transmission facilities I take it, then, that you did not
21 take into account any set of circumstances similar to those
22 I have described which were, admittedly, for present purposes
23 hypothetical?

24 A. I made no explicit adjustments for that.

25 MR. MORRIS: Thank you, Mr. Oliver.

1 That's all the questions I have, Your Honor.

2 JUDGE MATUSCHAK: Is there any further cross-
3 examination of this witness?

4 (No audible response.)

5 JUDGE MATUSCHAK: Mr. Wersan, any redirect?

6 MR. WERSAN: Could I have just two minutes, Your
7 Honor?

8 (Pause.)

9 MR. WERSAN: Your Honor, I have just one or two
10 questions.

11 JUDGE MATUSCHAK: Very well.

12 REDIRECT EXAMINATION

13 BY MR. WERSAN:

14 Q. Mr. Oliver, you were asked by Mr. Kleppinger
15 some questions about review of system planning costs and
16 whether or not you went back and analyzed the cost of
17 Limerick when it was first proposed as compared to the
18 cost of a combustion turbine at that time.

19 As I recall your answer you said you didn't go
20 back, it was not necessary. Could you please explain why
21 you felt it was not necessary?

22 A. Well, my experience and I believe the proper
23 approach to system planning is that this is a continuous
24 process in that you are constantly reevaluating costs. I
25 have been involved in some very detailed assessments of

1 plant costs for projects from the initiation of the siting
 2 process through the completion of a project and particularly
 3 for long lead time nuclear plants and coal plants for that
 4 matter, your long lead time base load projects, your
 5 lead times are such and the uncertainties are such that your
 6 initial estimates of what costs are going to be for those
 7 plants are quite uncertain. I think just the very difference
 8 between what the initial costs were when the company started
 9 into planning Limerick to what they have ultimately been
 10 presented to be in this case reflects that.

11 On the other hand, the cost of a combustion turbine
 12 is a much shorter lead time project and the certainty of
 13 the cost that is perceived at the time of the planning process
 14 is much greater.

15 Therefore, to just go back at one instance in time and
 16 say that there was any given difference is not a reasonable
 17 or full depiction of the process and the thought that should
 18 be applied to making these production planning decisions.

19 Q Do you know whether or not utilities and, in fact,
 20 this Commission, have reviewed the company's decisions to
 21 go ahead with Limerick over the life of the project?

22 A Yes, I do. There have been investigations into
 23 both Limerick 1 and Limerick 2.

24 MR. WERSAN: That's all I have, Your Honor.

25 JUDGE MATUSCHAK: Is there any further cross-examination

1 of this witness?

2 MR. MacGREGOR: No, Your Honor.

3 JUDGE MATUSCHAK: Very well. The witness is excused.

4 Thank you.

5 (Witness excused.)

6 JUDGE MATUSCHAK: Mr. Selkowitz.

7 MR. SELKOWITZ: Thank you.

8 Your Honor, I have previously submitted to the
9 reporter and, of course, circulated to the parties what we
10 have identified as University of Pennsylvania and UUC
11 Statement No. 2. That's the testimony of Dr. Stephen
12 Feldman.

13 Whereupon,

14 STEPHEN L. FELDMAN

15 having been duly sworn, testified as follows:

16 DIRECT EXAMINATION

17 BY MR. SELKOWITZ:

18 Q. Would you please state your full name and
19 business address for the record, sir?

20 A. Dr. Stephen L. Feldman, Delphi Energy Group,
21 Incorporated, 3508 Market Street, Philadelphia, Pennsylvania.

22 Q. And on whose behalf are you testifying today?

23 A. I'm testifying on behalf of the Utility Users
24 Committee and the University of Pennsylvania.

25 Q. I show you what has been marked as UP/UUC

1 Statement No. 2 and ask you to identify that.

2 A. Yes. That's my testimony in this case.

3 Q. Have you also provided an errata sheet and some
4 amended tables that go along with those corrections to your
5 testimony.

6 A. Yes. I have those.

7 Q. If I were to ask you the questions that are
8 contained in Statement No. 2 would your answers today be the
9 same as those, with the inclusion of your corrections?

10 A. Yes, they would.

11 MR. SELKOWITZ: Your Honor, I would move Statement
12 No. 2 from the University of Pennsylvania and the Utility
13 Users Committee into evidence subject to any later
14 objections during cross-examination.

15 JUDGE MATUSCHAK: Under those conditions the motion is
16 granted.

17 (Whereupon, the document was
18 marked as UP/UUC Statement No.
19 2 for identification, and was
received in evidence.)

20 MR. SELKOWITZ: Dr. Feldman is available for cross-
21 examination.

22 JUDGE MATUSCHAK: Mr. MacGregor.

23 MR. MacGREGOR: Thank you, Your Honor.
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CROSS-EXAMINATION

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BY MR. MacGREGOR:

Q Good morning, Dr. Feldman.

Dr. Feldman, am I correct that your testimony discusses, in part, the importance of the non-manufacturing companies to the area's economy?

A That's correct.

Q And am I also correct that you contend that the company's proposed Rate HT in this proceeding, if adopted, will be discriminatory in its application to these non-manufacturing customers?

A That's correct.

Q Am I also correct that your conclusion in this regard is based upon certain analyses presented in Dr. Wirtshafter's testimony?

A That's correct.

Q And that testimony concludes that Rate HT as proposed by PECO, if adopted, will be discriminatory against low load factor customers; is that correct?

A That's correct, Mr. MacGregor.

Q And in addition, he testifies that as a general proposition non-manufacturing customers in PECO's service territory tend to be low load factor customers?

A That's correct, Mr. MacGregor.

Q Dr. Feldman, if it were shown that this assumption

1 as to the relationship between load factor and non-manufacturing
2 customers was incorrect and that on an overall basis in the
3 company's Rate HT class that manufacturing and non-manufacturing
4 customers on average have approximately equal load factors,
5 then would your conclusion also be incorrect that Rate HT
6 as applied is discriminatory as to non-manufacturing customers?

7 A. No, it wouldn't, Mr. MacGregor, because at the
8 beginning of the testimony what I tend to do is characterize
9 load factor customers into two categories. If the manufacturing
10 customer happens to be a low load factor customer then he
11 fits into that low load factor category.

12 Q. It is a manufacturing customer?

13 A. Yes.

14 Q. Not a non-manufacturing customer?

15 A. Correct. I am just categorizing. You used the
16 word "tend" when you asked me the previous question, and I
17 would say yes the tendencies are such. I'm specifically
18 referring, of course, to my clients in those tendencies.

19 Q. But you have made no overall analysis of PECO
20 HT and PD customers to determine the relative load factors
21 of manufacturing and non-manufacturing customers?

22 A. No. That data is proprietary, as you well know.

23 Q. Now, at pages five and six of your testimony you
24 discuss a concern as to whether non-manufacturing customers
25 can pass along electric rate increases; is that correct?

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A. That's correct.

Q. And your concern includes the ability of the University of Pennsylvania to pass along electric rate increases as well; is that correct?

A. That's correct.

Q. At page seven of your testimony you're asked a question about the employment impacts of the proposed rate request of the company upon the non-manufacturing services sector; is that correct?

A. That's correct.

Q. Am I correct that you base your conclusions in this regard upon a study prepared by Dr. Shinnar; is that correct?

A. That's correct.

Q. And as stated at the bottom of that page you have not done an independent study yourself of this question; is that correct?

A. That's correct.

Q. Now, Dr. Feldman, have you reviewed Dr. Shinnar's testimony in this proceeding?

A. Yes, sir, I have.

Q. Have you read the draft technical report on the STARLOCK computer model?

A. Not in detail, no, I haven't.

Q. Have you reviewed the transcript of Dr. Shinnar's

1 testimony, his cross-examination in this proceeding?

2 A. Very briefly, yes.

3 Q. Have you reviewed Dr. Shinnar's workpapers with
4 respect to the STARLOCK model?

5 A. Not his workpapers, no.

6 Q. Have you examined any of Dr. Shinnar's computer runs?

7 A. Yes, I have.

8 Q. Have you examined any of the equations in the
9 technical report?

10 A. Yes, I have.

11 Q. Have you examined the model code employed in
12 Dr. Shinnar's analysis?

13 A. I don't know the model code, no.

14 Q. Have you performed yourself any tests or
15 sensitivity runs of his computer model?

16 A. Only against the testimony of Dr. Lewis Perl,
17 which was provided by the company in the Lukens Steel
18 case.

19 Q. Have you examined Dr. Shinnar's data base?

20 A. Yes, I have.

21 Q. Have you examined the methodology by which Dr.
22 Shinnar's data has been updated?

23 A. I don't know what update you're talking about.
24 I'm sorry.

25 Q. Have you examined any of the intermediate

1 calculations or results of the STARLOCK model?

2 A. The intermediate calculations I have not
3 examined, no.

4 MR. MacGREGOR: Thank you, Dr. Feldman.

5 That's all I have, Your Honor.

6 JUDGE MATUSCHAK: Staff.

7 MS. CHESTNUT: Thank you, Your Honor.

8 CROSS-EXAMINATION

9 BY MS. CHESTNUT:

10 Q. Good morning, Dr. Feldman.

11 A. Good morning, Ms. Chestnut.

12 Q. Dr. Feldman, did you examine the impact of your
13 clients' rate structure proposal on the hypothetical
14 manufacturing customers that are listed in one of Dr.
15 Wirtshafter's exhibits, M-1 and M-2?

16 A. I haven't, but that's not my testimony. I will
17 defer that to Dr. Wirtshafter.

18 Q. Mr. Feldman -- I'm sorry -- Dr. Feldman --

19 A. I don't have to use the honorific title, Ms.
20 Chestnut.

21 Q. Could you tell us the derivation of the 26 percent
22 intraclass increased differential that's referenced on page
23 four of your testimony?

24 A. Yes. I used Mr. Sundermeir's attachment.

25 (Witness perusing documents.)

1 A. It's Attachment 4-D, and on page three at the
2 end there is a comparison of rates to the high tension
3 power customers.

4 What I did, as I said, I typified a 600 hour customer
5 versus a 400 hour customer. The 26 percent I get, you can
6 look at the total bill and you find it's 26.1 percent for
7 the 600 hour customer versus 32.8 percent for the 400 hour
8 customer. Those percentages aren't very much different if
9 you look at the base rate.

10 Q. So you made an assumption as to usage and then
11 looked at the percentage as calculated by the company;
12 is that correct?

13 MS. CHESTNUT: Thank you.

14 No further questions, Your Honor.

15 JUDGE MATUSCHAK: Consumer Advocate?

16 MR. WERSAN: No questions, Your Honor.

17 JUDGE MATUSCHAK: Does any other party wish to cross-
18 examine the witness?

19 MR. KLEPPINGER: Yes, Your Honor.

20 JUDGE MATUSCHAK: Mr. Kleppinger.

21 CROSS-EXAMINATION

22 BY MR. KLEPPINGER:

23 Q. Good morning, Dr. Feldman.

24 A. Good morning, Attorney Kleppinger.

25 Q. On page three of your testimony you reference the

1 fact that the role of manufacturing --

2 JUDGE MATUSCHAK: What page was that?

3 MR. KLEPPINGER: Page three, Your Honor.

4 BY MR. KLEPPINGER:

5 Q In response to the question stated there you
6 indicate that the role of manufacturing in our economy has
7 declined dramatically. Have you performed any analysis of
8 why that role has been declining in the Philadelphia region?

9 A Not intensive analysis. I do have judgement.
10 But I have not performed an analysis myself of the comparative
11 advantage of Philadelphia's manufacturing versus other cities
12 in the U. S. and foreign countries.

13 Q You wouldn't be willing to testify today, then,
14 that that decline is totally unrelated to the cost of
15 electricity to the manufacturing sector in this region,
16 would you?

17 A I would say it was related, yes.

18 Q You discuss many of the results of a slowdown in
19 the non-manufacturing sector. Among those you indicate that
20 sales would decline in that sector. Would that also be true
21 as to the manufacturing sector?

22 A Yes, it would, but less so.

23 Q Would you also agree that a decline in the
24 manufacturing sector would result in reduced expenditures
25 on other goods and services in the Philadelphia economy?

1 A. Yes, it would, but less so than a commercial
rate impact of a similar magnitude.

2 Q. And another item that you mention in your testimony
3 is an effect of a reduction in the non-manufacturing sector
4 are reductions in output, employment and wage tax revenues;
5 is that correct?

6 A. That's correct, sir.

7 Q. And would those three factors also result from a
8 decline in the manufacturing sector?

9 A. Yes, sir, but like I said they would be so at a
10 much less level because of the dominance of the commercial
11 sector.

12 Q. By "dominance" do you refer to total kilowatt hour
13 sales of the manufacturing sector versus the non-manufacturing
14 sector?

15 A. No. What I'm saying is if you have a similar rate
16 increase to the manufacturing sector versus the commercial
17 sector in the Philadelphia region you find that because of the
18 size of the commercial sector in the Philadelphia region, number
19 one, the multiplier effects of the commercial sector versus
20 the industrial sector, according to the testimony of Professor
21 Shinnar, you find that in fact the commercial sector would
22 get hit very hard and the Philadelphia economy would get hit
23 harder from that similar percentage increase.

24 And as you know in this case the percentage increase
25

1 to most of the manufacturing sector is in fact less than it
2 is to the commercial sector.

3 Q. I don't know if I know that. I know that that is
4 what you believe in your testimony.

5 But you indicated that you briefly reviewed the
6 transcript of Dr. Shinnar's cross-examination. Are you aware
7 of the fact that Dr. Shinnar indicated that part of the job
8 lost which he forecasted in the commercial sector was
9 attributable to the ripple effect of the decline in the job
10 growth in the manufacturing sector?

11 A. I'm perfectly aware of that and the same case goes
12 for the decline in the manufacturing sector.

13 Q. But those relative ripple effects were not
14 quantified in Dr. Shinnar's model; is that true?

15 A. They are.

16 Q. Well, can you tell me what percentage of the
17 decline in job growth in the non-manufacturing sector was
18 attributable to the decline in the job growth in the
19 manufacturing sector?

20 A. There is a multiplier effect which I think is
21 slightly less on the manufacturing side than it is for the
22 commercial side. You would have to look at the figures.
23 As I answered to questions posed to me by Mr. MacGregor,
24 I am familiar with that model. I have used the model in
25 the past in prior testimony.

1 Q. But you don't know what those multiplier effects
2 are today; is that true?

3 A. I could find out for you if you would like.

4 Q. You indicate that the utility bills for the
5 non-manufacturing sector are the largest single component of
6 office operating costs; is that correct?

7 A. Of operating costs, that is correct.

8 Q. And do you know what component it is of the
9 total cost of an office?

10 A. Of office space in particular I couldn't say.
11 Of the commercial sector I have some idea of the contribution
12 of value added.

13 Q. Now, when an office building is in the works of
14 being constructed or a site is being selected, am I correct
15 that the developer will analyze the total cost of that
16 installation?

17 A. That's correct.

18 Q. Now, when you discuss the percentage of a utility
19 bill in relation to office operating costs, am I correct
20 that that utility bill includes utilities other than
21 electricity in the Philadelphia city area in particular?

22 A. That's correct, but electricity is the majority
23 of those bills as you well know.

24 Q. But there is natural gas service and steam service
25 also in the downtown Philadelphia area; is that correct?

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A. That's correct.

Q. On Table SLF-1 you list the utility costs on an average basis per square foot in numerous metropolitan areas of the country. Again, can you tell us what portion of that utility cost per square foot is related to electricity in each of those states?

A. In each of those cities?

Q. In each of those cities. Excuse me.

A. I could tell you. I have that information but it's not with me right now. I would have to look it up. You would have to wait a few minutes.

Q. Well, it would vary by city, would it not?

A. It certainly does, yes.

Q. Now, do all of those cities there have steam and natural gas service available as well, to your knowledge?

A. Some have steam service available and some have natural gas service available; some have both.

Q. But for Philadelphia in particular, the \$2.39 per square foot would include steam and natural gas, would it not?

A. That's true.

Q. You indicated you may have the figures available. Can you tell us what they are for Philadelphia; what portion of the \$2.39 is electricity?

A. Oh, that. I thought you were talking about the proportion of utility costs versus total costs. That was

1 your original question, was it not?

2 Q Well, in this line of questioning I was trying to
3 focus on the utility costs per square foot and what portion
4 of that utility cost is electricity.

5 A I don't have the data with me, no. But I do have
6 a judgemental statement based upon the fact that we do a lot
7 of energy conservation here in town. For example, Mr.
8 Kleppinger, in a building like this one, the majority of its
9 costs would probably be electric costs because even on a
10 day like today where it's not that cold -- it's around 40
11 degrees -- you're not going to use heat. That is, if the
12 building is filled to capacity with people, machinery is
13 going, you have air handling equipment -- what you hear now
14 is air handling equipment. Chances are that that air is
15 not heated.

16 Q It sure feels that way to me.

17 Would you turn to SLF-6? I'm interested in the
18 development of your ratio of non-manufacturing versus
19 manufacturing customers here.

20 What were your characteristics for the manufacturing
21 customers in this comparison? Are they the M-1 and M-2
22 customers from Dr. Wirtshafter's testimony?

23 A That's correct, sir.

24 MR. SELKOWITZ: Mr. Kleppinger, let me point out to
25 you that there has been a correction on that page and it's

1 included in the errata sheet, in case you were going to go
2 into any of the numbers.

3 MR. KLEPPINGER: I understand that. My concern
4 was with what characteristics were actually used.

5 BY MR. KLEPPINGER:

6 Q Now, the voltage level which you assigned to the
7 M-1 and M-2 customers, was that 13.2 KV?

8 A Yes, it was.

9 Q And that, indeed, is the voltage level for your
10 entire client group, as I take it from Dr. Wirtshafter's
11 testimony?

12 A That's correct.

13 Q Did you attempt to conduct any analysis as to
14 how typical the manufacturing characteristics are which were
15 utilized for the M-1 and M-2 customers?

16 A As I answered to Mr. MacGregor's question, in
17 fact we didn't do that because we don't have that data.
18 It's proprietary.

19 (Pause.)

20 A But I would rather defer to Dr. Wirtshafter for
21 that question because I think what he did was deduce the
22 typicality of those from certain data that the company has.
23 So I will defer that full answer to him.

24 Q Fine.

25 Now, at the conclusion of your testimony on page 12

1 you talk about narrowing the gap between manufacturing and
2 non-manufacturing. I don't really understand what you mean
3 by "gap" there. Are you talking about average rate in
4 terms of cents per kilowatt hour?

5 A. Yes, I am, and the increase and the effect of the
6 increase that the company is asking for in this case.

7 Q. Narrowing the gap of the percentage increase
8 assigned to those sectors?

9 A. Yes.

10 Q. As well as the average?

11 A. That's correct, sir.

12 Q. Okay.

13 Now, in making that statement have you performed a
14 customer-specific type of cost of service analysis which
15 would identify what the costs on an average cents per kilowatt
16 hour basis are to the manufacturing versus non-manufacturing
17 customers?

18 A. No, I haven't.

19 MR. KLEPPINGER: Thank you.

20 I have no further questions, Your Honor.

21 JUDGE MATUSCHAK: Mr. Ryan.

22 CROSS-EXAMINATION

23 BY MR. RYAN:

24 Q. Dr. Feldman, to help me understand your testimony
25 a little better, can you define load factor for me?

1 A. The ratio of average to peak load.

2 Q. Is it in your view a measure of the efficiency
3 of use of electricity by either the customer or the class
4 of customers whose load factor is being evaluated?

5 A. The term efficiency has many meanings and I'm
6 not quite sure which way you're using it, Mr. Ryan.

7 Q. Why don't you tell me what your preferred
8 definition would be and then apply that to the question?

9 A. My preferred definition of efficiency is inputs
10 were unit of output. It's a measure of productivity.

11 As a measure of productivity, I would say that load
12 factor has nothing to do with productivity unless you
13 correlate load factor with, in fact, what we call in economics
14 standard production functions. I don't think that has any
15 relevance.

16 Q. Let's look at it in terms of use of the utility's
17 system. Look at it, say, from PECO's perspective, then.

18 Is a higher load factor customer a more efficient
19 user of that system than a low load factor customer?

20 A. It depends upon the generation mix that PECO has.

21 Q. Use PECO's generation mix. You know it, I
22 understand.

23 A. In the case of PECO, I would say that a higher
24 load factor customer, given the addition of Limerick, may in
25 fact be more efficient for the utility.

1 Q Then when you talk about the lower load factor
2 which you have at least roughly equated to the non-
3 manufacturing customers in the HT group, are you talking
4 about lower than the class average load factor, for example?

5 A Yes. I would say that it would be equal or
6 lower, but not all of the customers in the Utility Users
7 Committee are the same. So I would not typify them as lower
8 than the class average, Mr. Ryan.

9 Q But is it fair to say that part of your
10 recommendation here is that the low load factor customers in
11 that group need a break, they need to be favored in some way
12 in the rate structure here because they have been disfavored
13 over the years in favor of higher load factor HT customers?

14 A Yes. I would say that they have been discriminated
15 against and therefore should receive not higher than average
16 rate increases as proposed by the company.

17 Q Then in summary is it fair to say that you would
18 like to favor those HT customers with lower than class average
19 load factors because they have a greater economic impact in
20 the PECO service territory than would be the case with high
21 load factor HT customers?

22 A That's part of my testimony; yes, it is.

23 MR. RYAN: I have no further questions.

24 JUDGE MATUSCHAK: Any further cross-examination of
25 this witness?

1 MR. MacGREGOR: Your Honor, if everyone else is
 2 finished I just have one area that I overlooked the first
 3 time.

4 JUDGE MATUSCHAK: Is there anyone else?
 5 (No audible response.)

6 JUDGE MATUSCHAK: Very well, Mr. MacGregor.

7 FURTHER CROSS-EXAMINATION

8 BY MR. MacGREGOR:

9 Q Dr. Feldman, at page four of your testimony you
 10 cite a book by Anita Summers, "Economic Report on the Phila-
 11 delphia Metropolitan Area," is that correct?

12 A Yes. Professor Anita Summers.

13 Q And you reference Professor Summers appearance as
 14 a witness in the Limerick 2 investigation before this
 15 Commission?

16 A That's correct, sir.

17 Q And you state her conclusion that Philadelphia's
 18 current economic strength lies mostly in the non-manufacturing
 19 sector; is that correct?

20 A That's correct, sir.

21 Q And you agree with that statement?

22 A That's correct, sir.

23 Q Do you also agree with the testimony given by
 24 Professor Summers in the Limerick 2 proceeding as follows:

25 "Most of the studies that have been done on the

1 relationship between energy costs and employment suggest
2 that it is a small influence"?

3 A. I disagree with that.

4 MR. MacGREGOR: Thank you.

5 That's all I have, Your Honor.

6 MR. SELKOWITZ: May we have a minute, Your Honor, to
7 see if we have any redirect?

8 JUDGE MATUSCHAK: Very well. We will take a few
9 minutes.

10 (Brief recess.)

11 JUDGE MATUSCHAK: Mr. Selkowitz.

12 MR. MacGREGOR: Your Honor, I'm sorry. I have one
13 follow-up area related to Mr. Kleppinger's testimony that
14 I also overlooked.

15 MR. KLEPPINGER: I cross-examined, Mr. MacGregor.
16 I didn't testify.

17 JUDGE MATUSCHAK: Very well.

18 BY MR. MacGREGOR:

19 Q. Just one point of clarification, Dr. Feldman.
20 You referenced that you had employed Dr. Shinnar's STARLOCK
21 computer model in other proceedings; is that correct?

22 A. A variation of the model. I don't think it was
23 named STARLOCK at that time.

24 Q. Was it the entire model as presented by Dr.
25 Shinnar or just pieces of it?

1 A. Pieces of that model which are used in constructing
the entire model.

2 Q. Could you identify those proceedings for me?

3 A. Yes. It was the water rate testimony -- in fact,
4 it was this past year before Commissioner William J.
5 Marrazzo --

6 Q. I'm familiar with that case. Thank you.

7 Any others?

8 A. That's the only case.

9 MR. MacGREGOR: Thank you.

10 I believe I have finished now, Your Honor.

11 REDIRECT EXAMINATION

12 BY MR. SELKOWITZ:

13 Q. On that same point about Dr. Shinnar's model, do
14 you have any familiarity with that model other than what you
15 may have mentioned so far?

16 A. Yes. I do have familiarity with the model. In
17 fact, the model was constructed at the University of
18 Pennsylvania and I guess one cannot avoid the academic
19 interaction that goes on at the university. I was at all
20 the workshops about the presentation of the model. I may
21 add that one of our dissertation students is jointly advised
22 by Dr. Shinner and me and therefore my familiarity became
23 extensive and that is why I used it in the past in my
24 testimony.
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I am by no means as sophisticated as Dr. Shinnar, who is the inventor of the model, and therefore I don't know how to break into his computer code. He knows that and I guess he shared that with others but not me.

Q Aside from relying on the results of Dr. Shinnar's analysis were there any other studies that formed any basis of your opinions on the impact on the economy of this rate increase?

A. Yes. There was an excellent study prepared for the company by Dr. Lewis Perl, who I alluded to before. That study in fact had shown that the impacts that Dr. Shinnar presents are very small compared to Dr. Perl's results.

I think Dr. Shinnar's testimony was that 20,000 future jobs would be lost. Mr. Perl, if you take his analysis and apply it to the SMSA region of Philadelphia I can show you mathematically that it would translate into a loss of almost 100,000 jobs. Therefore, I regard Dr. Shinnar's study as a rather conservative one.

MR. SELKOWITZ: I have no other questions on redirect, Your Honor.

MR. KLEPPINGER: One question, Your Honor.

RECROSS-EXAMINATION

BY MR. KLEPPINGER:

Q Mr. Feldman, the study referenced by Dr. Perl, I take it, as Dr. Perl's study presented in the Lukens

1 proceeding?

2 A. That's right, Mr. Kleppinger.

3 Q. And did that study relate to the transfer of a
4 manufacturing customer out of the Philadelphia Electric
5 Company service territory?

6 A. That is correct, Mr. Kleppinger.

7 MR. KLEPPINGER: Thank you.

8 JUDGE MATUSCHAK: If there are no further questions,
9 the witness is excused.

10 (Witness excused.)

11 MR. SELKOWITZ: We would next call Dr. Wirtshafter.
12 Whereupon,

13 ROBERT M. WIRTSHAFTER

14 having been duly sworn, testified as follows:

15 DIRECT EXAMINATION

16 BY MR. SELKOWITZ:

17 Q. Would you state your full name and business
18 address, please?

19 A. Dr. Robert M. Wirtshafter, Delphi Energy Group,
20 3500 Market Street, Philadelphia, Pennsylvania.

21 Q. And on whose behalf are you testifying in this
22 proceeding?

23 A. The University of Pennsylvania and the Utility
24 Users Committee.

25 MR. SELKOWITZ: Your Honor, I have submitted to the

1 reporter and we have previously circulated to all parties
2 Statement No. 3 of the University of Pennsylvania and the
3 Utility Users Committee.

4 BY MR. SELKOWITZ:

5 Q I ask you, Dr. Wirtshafter, if you can identify
6 this.

7 A Yes. That's my testimony.

8 Q You have also supplied today an errata sheet
9 contained some corrections to that testimony and to the
10 accompanying schedules; is that correct?

11 A That's correct.

12 MR. SELKOWITZ: I want to make sure that all the
13 parties here today have been given one. I do have some
14 extras.

15 MR. RYAN: May I have one?

16 (Document handed to Counsel Ryan.)

17 BY MR. SELKOWITZ:

18 Q With those corrections, if I asked you the
19 questions that are presented in your testimony today would
20 your answers be the same?

21 A Yes, with one small exception. I did not state
22 that Duquesne Light had a ratchet. It does have a ratchet.
23 So where I have said that there were only two utilities that
24 I examined that had ratchets, that should be three. Most
25 of the corrections that occurs in this sheet reflect that.

1 It changes only one of my customer's bills, the University
2 of Pennsylvania, by \$8,000, which is only one percent. So
3 really it changes none of my conclusions.

4 Q With that addition are your answers as contained
5 herein true and correct to the best of your knowledge,
6 information and belief?

7 A Yes.

8 MR. SELKOWITZ: I would move University of Pennsylvania
9 and Utility Users Committee Statement No. 3 into the record
10 subject, of course, to any challenges or motions during
11 cross-examination.

12 JUDGE MATUSCHAK: Under those conditions the motion
13 is granted.

14 (Whereupon, the document was
15 marked as UP/UUC Statement No.
16 3 for identification, and was
received in evidence.)

17 MR. SELKOWITZ: Dr. Wirtshafter is available for
18 cross-examination.

19 JUDGE MATUSCHAK: Mr. MacGregor.

20 MR. MacGREGOR: Thank you, Your Honor.

21 CROSS-EXAMINATION

22 BY MR. MacGREGOR:

23 Q Good morning, Dr. Wirtshafter.

24 A Good morning.

25 Q Am I correct that one of the conclusions in your

3880
1 testimony, stated at the bottom of page two, and elsewhere --
2 maybe not at the bottom of page two, but a general conclusion
3 of your testimony -- is that PECO's proposed HT rate structure
4 unfairly discriminates against low load factor customers?

5 A. That's correct.

6 Q. And it is your testimony that these lower load
7 factor customers are generally non-manufacturing customers
8 as compared to manufacturing customers?

9 A. That's correct.

10 Q. Have you performed a specific study of the
11 company's customers to determine what portion of them were
12 manufacturing and non-manufacturing and what their load
13 factors are?

14 A. No. The only customers that I examined were the
15 UUC members for whom I had bills.

16 Q. And how many members are there in that group,
17 Dr. Wirtshafter?

18 A. In the group that I examined, 11.

19 Q. Now, you presented the results of a bill comparison
20 analysis in your testimony. At page five of your testimony
21 in the paragraph near the bottom of the page you state,
22 "In addition, the time intervals over which demand is
23 registered varies slightly between utilities. It was assumed
24 that demands were unaffected by this interval," is that correct?

25 A. That's correct.

1 Q. What do you mean by the term "slightly"?

2 A. Well, some utilities use a 15 minute time period
3 and some utilities use a 30 minute time period. We assumed
4 that the measurement that would be made would be unaffected
5 by that so that we would have a comparable customer in each
6 of the different utilities.

7 It really would not affect the results to have taken
8 somebody else's definition of the demand period and used that,
9 and used that in the comparisons.

10 Q. If it had made a 10 to 20 percent difference would
11 that have been significant in your view?

12 A. No, because what I was trying to do was to form a
13 basis for how would the other -- how would my customers
14 perform under the other utilities, and I needed a use base
15 to assume for each of those. So I would have had to have
16 used the same usage and demand in each of the different
17 utilities in order to put that together.

18 Q. But if you applied the measured use by another
19 utility and that was different than Philadelphia Electric
20 Company's, that would have produced a different bill for
21 your customers in your analysis, wouldn't it?

22 A. Yes.

23 Q. And if that difference was 10 to 20 percent
24 in the registered demand would you consider that significant?

25 A. You would have to look at the impact on the rate,

1 not just the demand itself.

2 Q A 15 percent change in demand is not significant?
3 That could not have a significant impact on a customer's
4 bill?

5 A It very well could.

6 Q At the bottom of page six of your testimony you
7 state that in looking at manufacturing customers you took
8 two hypothetical manufacturing customer loads and created
9 them for your analysis?

10 A Yes.

11 Q These were based on the electric load patterns
12 of typical manufacturing users; is that correct?

13 A That's correct.

14 Q Upon what do you base that conclusion? Again,
15 is that based upon your group of customers?

16 A No, it's not. The manufacturing customer number
17 two is, in fact, based on the only data that I could obtain
18 on manufacturing customers, which was the seven largest
19 customers in the HT block. We did have their demands and
20 their usage.

21 Now, I know that the University of Pennsylvania is
22 one of those seven. And there is a possibility of there
23 being other non-manufacturing customers in that seven. But
24 I know that I took the average usage for that group to deter-
25 mine what a typical manufacturing customer would be.

1 Q And one of your customers is a customer with a
2 5,000 kilowatt demand and 648 hours usage?

3 A And that was just a customer that I used as a
4 comparison.

5 Q Would it surprise you to find that if you were
6 to look at the company's 1,200 manufacturing customers on
7 Rate HT and PD that there are only eight customers with
8 load characteristics equal or above that level?

9 A Well, I'm not concerned at all about PD in this
10 case.

11 I would be surprised, yes.

12 Q Would it surprise you to find that there are only
13 two customers with demands of 40,000 and above and a 710
14 hours use -- 40,000 KW demand and 710 hours use -- as your
15 manufacturing customer number two?

16 A Well, that would -- as I told you that's an
17 average of seven and it's very likely that several of them
18 are higher and several of them are below. So I wouldn't
19 expect there to be many of them at that level.

20 Q Really, very few of the 1,200 manufacturing
21 customers of the company, at least under the hypothetical
22 that I have given you, would fall within these usage
23 characteristics? In fact, only eight?

24 A That's correct.

25 Q Now, on page four of your testimony you state

1 that -- and elsewhere in your testimony -- you state that
2 only two of the companies that you examined had a ratchet
3 and then you amended your testimony earlier today to indicate
4 that Duquesne Light also has a ratchet.

5 Can you identify the two companies that do have a
6 ratchet?

7 A. Delmarva Power and Met Ed.

8 Q. I would like to show you the Rate Schedule AGS
9 for Atlantic Electric Company, which was also included in
10 your analysis. I would like you to examine page two of that
11 tariff and tell me whether or not that utility for that rate
12 has an 80 percent demand ratchet.

13 (Witness perusing document.)

14 A. Yes, it does have a ratchet.

15 Q. An 80 percent ratchet?

16 A. That's correct.

17 Q. And I take it you did not reflect that in
18 your calculations in your testimony?

19 A. That's correct.

20 Q. Now, you also referenced today that Duquesne
21 Light Company does have a ratchet; is that correct?

22 A. That's correct.

23 Q. Are you also aware of the fact that the Duquesne
24 Light Company does not permit conjunctive billing for its
25 Rate L, large power service?

1 A. I think it does say something about single
2 sources, yes.

3 Q. And the University of Pennsylvania, for example,
4 I believe, takes service at four points?

5 A. That's correct.

6 Q. And if you applied Duquesne Light's tariff you
7 would calculate it somewhat differently? You would calculate
8 the four sources independently? Did you reflect that in your
9 calculations?

10 A. No, because if that rate were in existence at
11 the university we would have put in that service at one
12 point. It's because that rate exists in a different place
13 that the transmission facilities were set up to accommodate
14 the rate.

15 I don't think that I should have reflected that.
16 That's one of the reasons I said that when I looked at a
17 cross-comparison I wanted to have usage characteristics
18 that were systematic across the utilities.

19 Q. Now, the ratchet in Duquesne, as I understand it,
20 is 70 percent of the contract demand?

21 A. Yes, that's correct.

22 Q. And also --

23 A. Wait. For above 5,000 kilowatts only.

24 Q. Correct.

25 And am I also correct that the current contract demand

1 of the University of Pennsylvania with Philadelphia Electric
2 Company is approximately 52,000 kilowatts?

3 A. It may very well be. But if we had this contract
4 with this contract demand we would be adjusting our demand
5 contract.

6 Q. So when you gave the calculation earlier today
7 you weren't using the current contract demand of the University
8 of Pennsylvania to calculate the impact of that provision on
9 its bill?

10 A. That's correct.

11 Q. Am I correct that your rate analysis or rate
12 comparison --

13 A. Can I say something about that?

14 Q. Sure.

15 A. Because in talking with utilities, certain
16 utilities do -- enforcement of the contract demand is a
17 thing that utilities don't always do as an immediate billing
18 practice. In the case of one utility we contacted they
19 indicated that in the last year-and-a-half to two years they
20 had never invoked a contract demand provision.

21 So that in the case of the university our contract
22 demand, if it were to be invoked, we would be changing our
23 contract demand.

24 Q. Was that utility Duquesne Light Company?

25 A. No, it wasn't.

1 Q Am I correct that the bill comparison you have
2 undertaken is based upon the current rates of the other
3 utilities you examined?

4 A That's correct.

5 Q And the rates you used for Philadelphia Electric
6 Company was the full rate increase requested by the company
7 in this proceeding?

8 A That's correct.

9 Q Would you agree with me that under the company's
10 phase-in plan that full rate increase will not become
11 effective, even if granted in full by the Commission, until
12 approximately July 1, 1988?

13 A That's correct.

14 Q Would you agree with me that it's possible that
15 some of the other utilities in your group might have rate
16 increases over the next three year period?

17 A Yes. We have actually determined what those rate
18 increases --

19 Q Over the next three years?

20 A No, we haven't.

21 Q Now, you also have some testimony on the HT rate
22 design and the demand ratchet. You state at page 13, or
23 there is a question asked of you on page 13 that says,
24 "What is the extent of the costs of the ratchet to low and
25 medium load factor customers?"

1 Do you see that question?

2 A. Yes.

3 Q. Would you agree with me that it's not precisely
4 correct that the effect of the ratchet depends on the ratio
5 of a customer's summer to winter demand and not upon a
6 customer's load factor?

7 A. Yes, I will agree with that.

8 Q. So a high load factor or a low load factor
9 customer could be affected by the ratchet depending on the
10 ratio of their summer demand to winter demand?

11 A. That's right. The University of Pennsylvania
12 actually is not a low load factor customer and it does have
13 a variation in summer and winter usage.

14 Q. Now, at page 11 of your testimony you again state
15 that HT rate design discriminates against the low load
16 factor customers.

17 Am I correct that on your exhibit RMW-4 you show a
18 range of increases for Rate HT customers by load factor
19 under the company's proposed rate increase?

20 A. That's right.

21 Q. And am I correct as a general proposition your
22 increase would assign smaller increases on a percentage
23 basis to low load factor customers and somewhat higher
24 increases to high load factor customers as compared to
25 those proposed by the company?

1 A. That's correct.

2 Q. Now, if you would look at RMW-19 for a moment,
3 I take it the right-hand column is where you provide your
4 proposed HT rates in this proceeding?

5 A. That's correct.

6 Q. That's a customer charge of \$264.15; is that
7 correct?

8 A. That's correct.

9 Q. And a demand charge of \$5.77?

10 A. That's right.

11 Q. And you charge for the first block 9.4 cents
12 per kilowatt hour?

13 A. That's right.

14 Q. And 7.64 cents for the next block?

15 A. That's right.

16 Q. And then 5.91 cents for additional use?

17 A. That's correct.

18 Q. What I have tried to do here, Dr. Wirtshafter,
19 is present a couple of tables that really reflect what's on
20 your exhibit RMW-4. I take a low load factor customer with
21 150 hours use with 30,000 kilowatts of demand and then a
22 fairly high load factor customer with 520 hours use with
23 the same demand, and I have calculated the effect of the
24 company's rates versus your proposed rates for Rate HT on
25 those two customers.

(Document handed to witness.)

1 Q Would you agree with me that with respect to the
2 low load factor customer that the company's rates would
3 produce an increase \$120,000 greater than the rates that
4 you propose for the customer with these characteristics?

5 A That's correct.

6 Q And on the other hand for a high load factor
7 customer your proposal would result in a \$64,860 greater
8 increase than that proposed by the company?

9 A That's correct.

10 (Pause.)

11 A May I ask you a question?

12 Q Sure.

13 A Is there such a customer with 30,000 kilowatts
14 and 150 hours use?

15 Q Well, this is just for comparison purposes. There
16 may be or there may not be. I'm not proposing that this is
17 any specific customer.

18 (Document handed to witness.)

19 Q This is really more of the same, Dr. Wirtshafter.
20 We have been a little more specific this time.

21 I have chosen a customer with a billing demand of
22 34,488 kilowatts and then the hours use, as I have indicated,
23 in the blocks. And I have calculated the difference between
24 your rates and our rates and determined that for this
25

1 particular customer in this particular month your rates
2 would produce an increase beyond that proposed by the
3 company of \$49,410.72?

4 A. Yes. I think what you have done is something
5 that I would have no objection to. You're looking at a
6 bill that is very similar to the University of Pennsylvania's
7 and what in fact is happening is that the University of
8 Pennsylvania's bill is going up under our proposal. That
9 is because they happen to have a higher load factor than the
10 rest of the UUC customers and it's something that we realize
11 is contrary to one of our customers' positions but it is a
12 position that we believe is more fair.

13 Q. And in fact we went back -- I will state for the
14 record and perhaps you will agree with me, that that is the
15 November, 1985, bill of the University of Pennsylvania. I
16 can show you a copy of the bill if you want to verify that.

17 In addition, we went back and took the University of
18 Pennsylvania's bills for the last year and calculated them
19 under your rate proposal and our rate proposal and that
20 indicated that on an annual basis, using the data for the
21 last year, your rates will increase the rates paid by the
22 University of Pennsylvania by over \$670,000 a year.

23 (Document handed to witness.)

24 A. I think the percentage I calculated was in the
25 neighborhood of about 1.7 percent, that my rate increase to

1 the university if about 1.7 percent over what the PECO rate
2 increase will be.

3 Q Is that \$672,000?

4 A That's approximately -- I think our -- it's an
5 increase. It looks to me like you may have used different
6 numbers and come up with a different end increase. But in
7 both cases there is undeniably an increase to this customer.

8 Q Well, if that's the case, Dr. Wirtshafter, then
9 how do you feel about page six of Dr. Feldman's testimony,
10 where he says, "Many commercial and other non-manufacturing
11 services, such as educational institutions and hospitals, do
12 not[sic] have significant sunk costs in plant and equipment.
13 Instead of contemplating relocation, they would retrench.
14 For example, recent estimates at the University of Pennsylvania
15 show that the increase in student tuition required from the
16 proposed rate increase would be two percent for all students.
17 Penn's tuition closely tracks the other Ivy League institutions;
18 therefore, such an increase could imply a budget cut for the
19 academic departments in the university.

20 "In my own academic unit," that is Dr. Feldman's
21 unit, "at the university, I oversee some \$2 million of
22 educational and research activities annually. A two percent
23 cutback would mean an almost equivalent loss in labor force.
24 In other words, since I have almost 100 individuals on the
25 payroll, I would be forced to reduce the workforce by two

1 employees. Since I have only one of more than 100
2 academic units on campus, the impact may be 175 to 200
3 jobs lost for the university at large."

4 Would you agree with me that if that is the case
5 your rate proposal will produce even a greater job loss
6 for the University of Pennsylvania?

7 A. Only if the Commission grants you a full increase.

8 MR. MacGREGOR: Thank you.

9 That's all I have, Your Honor.

10 JUDGE MATUSCHAK: Let's take a ten minute recess.

11 (Recess.)

12 JUDGE MATUSCHAK: Staff.

13 MS. CHESTNUT: Thank you, Your Honor.

14 CROSS-EXAMINATION

15 BY MS. CHESTNUT:

16 Q Dr. Wirtshafter, in your billing comparison you
17 incorporated a certain assumption concerning power factors
18 and essentially you assigned the large load customers a 95
19 percent power factor and a 90 percent power factor for lower
20 load customers; is that correct?

21 A. That's correct.

22 Q On a per unit basis would you agree that the
23 customer with the higher power factor is the less expensive
24 to serve than the customer with the lower power factor?

25 A. Yes.

1 Q And I think you were asked this by Mr. MacGregor,
 2 but how would you characterize the non-manufacturing
 3 customers in terms of power factor, high or low?

4 A I don't recall having any basis for making that
 5 comparison.

6 JUDGE MATUSCHAK: I can't hear you, Doctor.

7 THE WITNESS: I really don't have a basis for making
 8 that comparison, partly because there is a difference in
 9 the billing level for power factor based on demand levels;
 10 and therefore those people that have a 95 percent power
 11 factor level that they must achieve will more likely have a
 12 95 percent power factor. Because the larger manufacturing
 13 customers have a high demand they will also be subject to
 14 the 95 percent power factor.

15 So the difference can be a result of the difference in
 16 demand, not the difference between manufacturing and
 17 non-manufacturing.

18 BY MS. CHESTNUT:

19 Q And therefore, power factor to some extent is
 20 within the control of the particular customer?

21 A That's right. That's exactly why we left it out
 22 of our comparison.

23 Q A question was deferred to you by Dr. Feldman
 24 concerning the impact of your rate proposal. Did you do an
 25 analysis of the impact of your proposal on your hypothetical

1 M-1 and M-2 customers?

2 A. Yes.

3 (Witness perusing document.)

4 A. Yes, I did.

5 Q. And you have something prepared with you today
6 showing those results?

7 A. Well, I have the names. So I would not be able
8 to give it to you. But I could read the results to you.

9 Q. Why don't you read them into the record?

10 A. Under my --

11 MR. SELKOWITZ: Excuse me. Before you answer that,
12 you have a question about which ones, the non-manufacturing
13 or the manufacturing?

14 MS. CHESTNUT: I was specifically asking about the
15 manufacturing. If he has non-manufacturing ones also I
16 would be interested in them.

17 A. The Customer 1, non-manufacturing 1, would be
18 going up at 28.87;

19 Non-manufacturing 2 would be 22.15;

20 Non-manufacturing 3 would be 21.6;

21 Non-manufacturing 4 would be 21.1;

22 Non-manufacturing 5 would be 23.09;

23 Non-manufacturing 6 would be 23.78;

24 Non-manufacturing 7 would be 25.78;

25 Non-manufacturing 8, 19.53;

1 Non-manufacturing 9, 19.45;

2 Non-manufacturing 10, 29.83;

3 The next one would be 22.6;

4 And the last non-manufacturing would be 25.14;

5 Industrial customer 1 would be 34.68;

6 Industrial customer 2 would be 35.82.

7 That's manufacturing, industrial.

8 BY MS. CHESTNUT:

9 Q M-1 and M-2?

10 A Yes.

11 Now, would you like those at the 50 percent level,
12 if 50 percent of the money is granted?

13 Q No. I assume that the percentages you give us
14 were if the full rate increase request was granted.

15 A That's correct.

16 Q Dr. Wirtshafter, is it your position that flat
17 demand and high load factor are undesirable goals for an
18 electrical system? And if you need a reference I will
19 refer you to page 24 of your prepared testimony.

20 A Would you show me where?

21 Q At the end of line one, "The end result is that
22 the customer has a flat demand and a high load factor and
23 avoids the ratchet and other demand charges."

24 A You're asking me -- would you repeat the question,
25 please?

1 Q Sure. Do you think that the fact that a
2 customer would have a flat demand and a high load factor
3 is an undesirable goal in terms of the electrical system
4 from the utility's point of view?

5 A It's an undesirable goal in the case of
6 Philadelphia Electric's system because Philadelphia Electric
7 has a mix of generation which could not run efficiently if
8 it had a high load factor. There has been testimony in this
9 case by Philadelphia Electric's witness, Mr. Rush, as to the
10 fact that there is not enough base load plant.

11 So to push or even force customers into having a flat
12 demand and high load factor would be inconsistent with the
13 equipment that is available to generate power at Philadelphia
14 Electric.

15 Q Am I correct, Dr. Wirtshafter, that what you just
16 said is that Philadelphia Electric Company's generation mix
17 lacks sufficient base load capacity to accommodate customers
18 with flat demands and high load factors?

19 A If all customers had flat demand and high load
20 factors it would not be an efficient mix of generation and
21 load. And in fact, the present situation is such that there
22 is insufficient base load capacity to meet the existing load
23 characteristics.

24 Q And when you're referring to base load capacity
25 are you including Limerick 1?

1 A. I believe Mr. Rush even indicates that even with
2 Limerick 1 there is still insufficient base load capacity.

3 Q. Did you do any analysis yourself on this issue?

4 A. Not beyond what Mr. Rush has indicated, no.

5 MS. CHESTNUT: Thank you, Dr. Wirtshafter.

6 Your Honor, that's all the questions I have for this
7 witness.

8 JUDGE MATUSCHAK: Consumer Advocate.

9 MR. WERSAN: Thank you, Your Honor.

10 CROSS-EXAMINATION

11 BY MR. WERSAN:

12 Q. Dr. Wirtshafter, on page 11 of your testimony
13 you state, "For this rate request, the Commission should raise
14 the rates on an equal percentage basis to all classes of
15 customers," is that correct?

16 A. That's correct.

17 Q. Does this mean that in terms of spreading the
18 rate increase, any rate increase, to the customer classes
19 you're going with the company's proposed revenue allocation?

20 A. I really haven't made that judgement. There are
21 some what I would say minor allocation changes that I have
22 no trouble with. I don't believe that the allocation is
23 the major issue in this case. It's the assignment of the
24 capacity costs and I really haven't made an opinion as to
25 whether PECO's allocation method was more appropriate than

1 someone else's.

2 Q Well, I take it, though, then, that from the
3 review you have done you have no quarrel with the company's
4 proposal to spread the rate increase equally upon a fuel
5 basis including -- let me change that -- including fuel
6 in the allocation?

7 A I think I just said that I really don't have an
8 opinion as to which of those is the best.

9 MR. WERSAN: Thank you.

10 That's all I have, Your Honor.

11 JUDGE MATUSCHAK: Mr. Kleppinger.

12 MR. KLEPPINGER: Thank you, Your Honor.

13 CROSS-EXAMINATION

14 BY MR. KLEPPINGER:

15 Q Good afternoon, Dr. Wirtshafter.

16 Just so I can understand how you decided to classify
17 customers between low load factor and high load factor, is
18 there a break point there that differentiates between low
19 load factor and high load factor in your mind?

20 A Well, I looked at our customers and they range
21 in the neighborhood of 300 to 550 and I classified those as
22 low and medium load factors. I looked at the seven largest
23 customers and looked at their load factor and indicated that
24 their load factor was high load factor.

25 Q Now, when you talk about 300 to 550, you mean

1 hours use, I take it?

2 A. Hours use, yes.

3 Q. And a 550 hours use customer, would you agree, is
4 roughly a 75 percent load factor customer?

5 A. That's correct.

6 Q. And that's above the HT class average load factor?

7 A. That's correct.

8 Q. Would you agree subject to check that the class
9 average load factor is approximately 63 percent?

10 A. That's right.

11 Q. Now, for manufacturing customers, I take it,
12 which you consider high load factor customers, they would have
13 hours use above 550 in general?

14 A. If someone had 550 hours or above I would classify
15 them as high load factor customers, yes.

16 Q. This sample of non-manufacturing customers is
17 basically your client group, I take it, correct, throughout
18 your testimony? Is that correct?

19 A. That's correct.

20 Q. In response to an interrogatory labelled
21 IR-PECO-UUC/UP-7, which was provided by Mr. Chernick, I
22 believe a listing was presented as to who those non-manu-
23 facturing customers are. Are you familiar with that
24 interrogatory response?

25 A. No, I am not.

1 Q Are the organizations listed on that interrogatory
2 the client members of UUC, the members of the group?

3 MR. SELKOWITZ: If Your Honor please, I would
4 generally have no objection to just indicating the members
5 of the group. But I am going to have a problem if we go
6 further and tie the specific name of a company to any
7 numbers that might be in the record having to do with
8 actual bills, bill increases and bill decreases. So perhaps
9 we could get an offer from Mr. Kleppinger as to where he's
10 going with this before I voice an objection.

11 MR. KLEPPINGER: I have no such intention, Your Honor.
12 I'm just trying to identify what Dr. Wirtshafter perceives
13 what -- and to let the record show -- what his sample of
14 non-manufacturing customers are and the types of businesses
15 those may be. I think that is helpful for the record to have
16 that information.

17 I do not intend to make any connection to the usage
18 characteristics.

19 A. There is no relationship between that list and
20 the UUC members. That was a list of BOMA members that we
21 contacted and that's a much bigger group of customers.

22 BY MR. KLEPPINGER:

23 Q Other than the University of Pennsylvania are
24 there other institutional members of UUC as you would
25 characterize them?

1 A. Yes, there are other non-profit entities.

2 Q. Are any of those institutions hospitals, for
3 example?

4 A. I don't think there are at this time.

5 Q. Would you classify a hospital as a non-manu-
6 facturing customer in your delineation of those --

7 A. Yes, non-manufacturing.

8 Q. And are you familiar with what load factor a
9 typical hospital may operate at?

10 A. No. They would be higher than an office building,
11 certainly.

12 Q. But in relationship to your 550 hour cutoff
13 point you wouldn't know what that would be?

14 A. They would be relatively high load factors.

15 Q. Now, you discuss the ratchet effects on average
16 commercial and average institutional customers. At page
17 three I believe you use the term "average."

18 Again, when you use that word, average commercial and
19 average institutional, are you referring to the types of
20 load characteristics which UUC members represent?

21 A. It refers to my classification of non-manufacturing
22 and manufacturing that I indicated on the bottom of page
23 two, the higher load factor customers and lower load factor
24 winter/summer different customers.

25 Q. Did you have any particular KW or KWH level in

1 mind when you used the term average commercial or average
2 institutional?

3 A. No.

4 Q. Did you have any particular on or off-peak usage
5 characteristics of those types of customers?

6 A. Well, I think I worked it backwards. All of our
7 customers that I had data for were affected by the ratchet
8 and therefore I used the average commercial and institutional
9 customer in reference to the fact that all of our customers
10 were affected by the ratchet.

11 (Pause.)

12 A. There may be manufacturing customers that are
13 affected by the ratchet and it's just as harmful to them.

14 Q. You did make a specific assumption, did you not,
15 on the on-peak/off-peak usage of your hypothetical
16 manufacturing customers?

17 A. That's correct.

18 Q. And am I correct that that assumption assumes that
19 33 percent, roughly, of the kilowatt hours is consumed by a
20 manufacturing customer in the on-peak and 66 percent in
21 the off-peak?

22 A. That's right.

23 Q. And what are PECO's on-peak hours on the HT
24 tariff? Would you agree subject to check that it's 8:00
25 a.m. to 8:00 p.m.?

1 A. Yes, I think that's correct.

2 Q. And when you performed your comparison of bills
3 with other utilities did the results also show that for
4 your two manufacturing hypothetical customers their bills
5 would also be less on each of those systems?

6 Q. The numbers indicate relative -- treatment of
7 non-manufacturing to manufacturing are indicated in Dr.
8 Feldman's testimony. The numbers are generated from my
9 worksheets, if you would like to turn to the errata work-
10 sheets, although they are not any different they do indicate
11 the relative treatment. And there are several utilities
12 in which the non-manufacturing -- I mean, the only thing
13 that I can say is the ratio differences between PECO and
14 other utilities because I really didn't look at all the
15 utilities. I only wanted to look at the relative treatment
16 between utilities.

17 Q. Well, let's turn to one of your worksheets.
18 It's not numbered but it's labeled Percent Difference from
19 New PECO Rate.

20 Now, am I correct that for each of the utilities
21 which you compared PECO's rates to that the M-1 and M-2
22 customers would have lower rates on each of those utilities
23 as well?

24 A. I'm not sure what you mean by "lower rates."

25 Q. Well, okay. Let's take a specific example. PP&L

1 is the second to last column on that page and for M-1 and
2 M-2 you have negative 32 percent and negative 31 percent.

3 Is that telling us that on that system your M-1 and
4 M-2 customers would have rates 32 percent lower than PECO's
5 proposed rates?

6 A. Yes.

7 Q. Now, there are negative numbers for each and
8 every of the utilities which you compared to PECO's rate
9 proposals; right?

10 A. That's right.

11 Q. And you found, did you not, that both for M-1 and
12 M-2 on all of those utility systems they would have lower
13 rates than what they currently would be paying under PECO's
14 rate proposal?

15 A. That's correct.

16 Q. Now, from this comparison of manufacturing and
17 non-manufacturing customers did you reach the conclusion
18 that not only is there this rate difference between
19 manufacturing and non-manufacturing customers but that
20 these utility systems that you used to compare to are lower
21 cost overall systems than what Philadelphia Electric is?

22 A. In general that's correct.

23 Q. So that if you were to run an average cost per
24 kilowatt hour comparison between PECO's proposed rates and
25 each of these utilities this analysis would at least

1 impliedly indicate that those utilities would have a lower
2 average cost per kilowatt hour?

3 A. That's correct.

4 Q. Now, your specific rate design has the effect,
5 does it not, of significantly lowering PECO's proposed
6 demand charge and increasing PECO's proposed tail block
7 energy charge?

8 A. Yes, it does. But the demand charge still is
9 going up.

10 Q. Okay. That raises another question. In your
11 testimony when you list the rate design you cite a demand
12 charge on page 21 of \$5.34. That's the last line. And
13 that is also the demand charge you list on page three at
14 the bottom of the page under your proposed rate design;
15 is that correct?

16 A. That's correct.

17 Q. Now, in your proof of revenues on RMW-18 and
18 19 a \$5.77 charge is used and I would just like to clarify
19 which is the actual proposal that you're making.

20 (Witness perusing documents.)

21 A. I think it looks as though the rates that I have
22 used in the testimony do differ from the ones that are
23 listed here and I'm not exactly sure which of the two --
24 there are slight differences. I would have to spend a
25 couple of minutes and make sure that this is in fact the

1 right one. But my belief is that the one that's listed
2 on RMW-19 is correct, which means that the demand charge
3 should be \$5.77 and the first block should be .0940.

4 Q. Do you know, Dr. Wirtshafter, if when you
5 performed your bill comparisons with these other utilities
6 you used the \$5.77 number for the demand charge?

7 A. We used the \$5.77.

8 Q. Now, you have also done a sensitivity analysis
9 based on 50 percent of the allowed increase; is that
10 correct?

11 A. Yes.

12 Q. Now, that's done, at least for the HT large
13 seven customers, on RMW-23; is that correct?

14 A. That's correct.

15 Q. On your revenue pricing for UUC supplement
16 there there's no demand charge or no demand charge revenues
17 reflected. I'm a bit confused as to whether there would be
18 no demand charge under a 50 percent of Limerick allowed in
19 rate base or if there would be some demand charge.

20 Q. No. There must be a -- that number did not
21 show up.

22 Q. On RMW-24 you then have a demand charge of
23 \$5.14. Is that the one that should be on RMW-23?

24 A. I'm hesitant to say yes at this stage because
25 I'm not sure whether that's a typo or whether in fact that

number should have been in there and that would readjust
1 everything downwards.

2 Q But you would recognize that if there is a
3 positive demand charge on RMW-23 it would affect the total
4 base revenue --

5 A Yes.

6 Q -- and the proof of revenue for those large
7 seven customers?

8 A That's correct.

9 Q Now, the basis for these rate design changes in
10 HT is basically associated, is it not, with your allocation,
11 if you will, of 90 percent of the Limerick 1 costs to the
12 energy component?

13 A Yes.

14 Q As I understand your testimony, you are only
15 making that recommended allocation for Limerick 1 for the
16 HT class.

17 A I've only done the analysis for the HT class,
18 yes.

19 Q Wouldn't it be logical, if that's going to be
20 the approach, that it also be applied to the other rate
21 schedules?

22 A Yes.

23 Q And we don't know what the effect of that would
24 be, for example, on the PD, GS or residential classes?
25

1 A. Well, it wouldn't have any implication on the
2 residential class.

3 Q. Because there's no demand charge?

4 A. That's correct.

5 Q. It would have an impact, would it not, on the
6 energy block pricing of the residential rates? Would it
7 affect the on-peak/off-peak differentials or would it
8 affect the block prices?

9 A. I'm really not familiar with the R rates to
10 make that assessment.

11 Q. Now, in performing your utility comparisons
12 you did not compare Penn Power's rates and West Penn's
13 rates; is that correct?

14 Q. That's correct.

15 Q. Is there a reason that they were omitted? They
16 are the other two major Pennsylvania utilities.

17 A. We really restricted ourselves to PJM at first
18 and then we thought that we would look at other utilities.
19 But we did not look at all the utilities that we could have.
20 We could have gone in lots of different directions.

21 Q. Now, Pennsylvania Electric was one of the
22 companies that you considered; is that correct?

23 A. That's correct.

24 Q. Dr. Wirtshafter, I would like to show you an
25 officially filed tariff for Penn Elec. which is marked as

1 an officially filed document of the Commission, dated
2 October 25, 1985, and see if you will acknowledge that as
3 an officially filed tariff with the Commission.

4 (Document handed to witness.)

5 A. Yes.

6 Q. On that tariff -- and I have other copies if
7 anyone is interested in seeing that -- am I correct that it
8 is composed of a demand charge of \$9.69?

9 A. That's right.

10 Q. And an energy charge of 3.15 cents and 2.45 cents?

11 A. That's right.

12 Q. Now, on this type of rate am I correct that your
13 proposal would have a demand charge significantly less than
14 that and energy charges significantly higher than that?

15 A. You're asking me in relation to Penn Elec. what
16 my proposed PECO's would be?

17 Q. That's correct because I think we agreed earlier
18 that all the utilities that you used to compare are lower
19 average cost system than what Philadelphia Electric is.

20 A. That's correct. But I haven't agreed with your
21 point. You're trying to look at -- you're looking at the
22 demand charge and the energy charge of Penn Elec., which are
23 very explicitly stated here, and asking me to compare them
24 to the demand charge of Philadelphia Electric, which includes
25 both an explicit demand cost and an implicit demand cost.

1 through the effective use hours. So I can't look at this
2 and tell you right off the bat whether in fact this is lower
3 or higher than my proposal.

4 Q Well, are you suggesting that the other comparative
5 utilities that you looked at do not have an implicit demand
6 charge in their rate schedules?

7 A Some of them do but this one that you handed me
8 does not.

9 Q What is the effective total implicit and explicit
10 demand charge in PECO's rate schedule? Do you know?

11 A For what hours usage?

12 Q Well, let's start with 550.

13 A Mr. Kleppinger, have you got IR-PAIEUG-1-50?

14 Q Not with me, no.

15 A Well, I would need that to calculate the
16 implicit and explicit demand charges for PECO.

17 Q Now, another utility you compared was Duquesne
18 Light; is that correct?

19 A That's correct.

20 Q Does Duquesne Light have a declining energy
21 charge, if you know?

22 A No -- well, it depends on which service you're
23 looking at.

24 Q Let's look at Rate L.

25 A Yes, it does.

1 Q Now, under that type of rate schedule would you
2 say that there is an explicit and implicit demand charge?

3 (Pause.)

4 Q If you can tell.

5 A Yes, there is. It's impact is not as big as
6 Philadelphia Electric's. It attempts to collect in its
7 first energy block 4. -- well, it attempts to collect less
8 than one cent worth of demand in its energy block.

9 Q And what is the current capacity charge from the
10 Rate L tariff of Duquesne Light that you used in your cost
11 comparison?

12 A Well, we would for all of our customers --

13 Q The explicit capacity charge, if you would.

14 A All right. For the Rate L it would probably be
15 \$70.30, except for the university, which would be \$70.20.

16 Q And what are the energy charges on that rate
17 schedule?

18 A For the first block, 3.23 cents and 2.27 cents
19 additional kilowatt hours.

20 Q So at least as regards the explicit capacity
21 charge, the Duquesne charges, capacity charges, are greater
22 than your proposal and the energy charges are lower than
23 your proposal, just on a one-to-one comparison of the
24 explicit demand charge and the energy charge?

25 A If you say so, but that has no bearing of

1 importance.

2 Q I would like to show you a copy of Pennsylvania
3 Power Company tariff GP, the General Primary rate, and see
4 if you will recognize that as an official tariff,
5 officially filed tariff, with the Commission.

6 MR. SELKOWITZ: Your Honor, I'm going to object to
7 any cross-examination on Penn Power. Mr. Kleppinger
8 through his witness is perfectly free to put this in as
9 rebuttal. But the testimony here is that he didn't look
10 at Penn Power and it's not part of the comparison and wasn't
11 considered and this witness has no knowledge and has never
12 reviewed these tariff sheets.

13 JUDGE MATUSCHAK: Is that Penn Power or Pennsylvania
14 Power?

15 MR. KLEPPINGER: Pennsylvania Power Company, Your
16 Honor.

17 I'm not offering these as exhibits. I'm just trying
18 to probe what the comparisons would be on implicit and
19 explicit demand charges as Dr. Wirtshafter has described
20 them in his testimony and how they compare to his proposal.

21 MR. SELKOWITZ: The problem with that, Your Honor, is
22 not having ever seen these before it's going to take a long time
23 for him to sit here and read these and see what they are,
24 deduce the various conclusions that were done for the ones
25 that were studied; and that is why they are irrelevant, because

1 they are not part of his testimony.

2 Dr. Bloom, of course, is a very capable fellow and
3 he can review these in his rebuttal testimony. I don't
4 think it's proper cross.

5 MR. KLEPPINGER: All we are looking at, Your Honor,
6 are two charges, a capacity charge and an energy charge,
7 and as a utility consultant and an expert I think Dr.
8 Wirtshafter is perfectly capable of recognizing what those
9 charges are.

10 JUDGE MATUSCHAK: We will overrule the objection.

11 MR. KLEPPINGER: Thank you, Your Honor.

12 BY MR. KLEPPINGER:

13 Q Dr. Wirtshafter, on the tariff you are looking
14 at, could you state for me what the capacity charge is as
15 stated in that tariff?

16 A \$8.70 per KVA.

17 Q And would you consider that an explicit capacity
18 charge?

19 A Yes.

20 Q And based on the design of this tariff would you
21 agree that it is what is normally called a declining
22 energy block charge?

23 A Yes.

24 Q Would you agree that in most declining energy block
25 charge rates of this type there are implicit demand charges

1 included in each of those energy charges?

2 (Pause.)

3 Q. As a general proposition. You may have specific
4 knowledge for this tariff in particular.

5 A. Yes. I don't know. They may be reflecting
6 different energy charges in each of the different blocks.
7 I don't know what the relationship between the demand and
8 the energy is in this utility.

9 Q. Would you agree with me that these energy charges
10 are 3.08 cents per KWH for the first 150 KWH?

11 A. That's correct. That's what it says here.

12 Q. And 2.47 cents for the next 100 KWH?

13 A. That's correct.

14 Q. And 1.86 cents per KWH for everything over 250
15 KWH?

16 A. Yes.

17 Q. Now, one of the utilities that you did specifically
18 compare was PP&L; is that correct?

19 A. That's correct.

20 Q. And did you use Rate Schedule LP-4 in that
21 comparison?

22 A. Yes.

23 Q. Now, Dr. Wirtshafter, in your review of those
24 other utilities did you compare any utilities that had
25 specific rate schedules applicable to universities or

institutions?

1 A. I don't know.

2 Q. Are you aware of a West Penn Power Company
3 tariff which is specifically applicable to the Penn State
4 University?

5 A. No.

6 Q. I would like to show you Supplement 77 to
7 Electric Pa. P.U.C. No. 37, West Penn Power Company,
8 which is labelled Agreement for Interchange of Electric
9 Energy Between West Penn Power and Penn State University.
10 Would you take a moment to review that?

11 MR. SELKOWITZ: Just for the record, Your Honor, I
12 want to note my same objection. We don't mind assisting
13 Mr. Kleppinger in his rebuttal but this is not part of my
14 client's testimony through Dr. Wirtshafter and it wasn't
15 looked at --

16 JUDGE MATUSCHAK: Well, we will overrule the objection.
17

18 MR. KLEPPINGER: I would note, Your Honor, that I'm
19 not making exhibits of any of these tariffs. They are
20 officially filed with the Commission and administrative
21 notice has been taken of them in the past.

22 (Witness perusing documents.)

23 BY MR. KLEPPINGER:

24 Q. If you would, Dr. Wirtshafter, turn to page two
25 of this tariff. Do you see the continuation of the fourth

1 paragraph, number four on that page, which states, "The
2 university's demand shall not be less than the highest of
3 the following: (a) 65 percent of the kilovolt demand capacity
4 of this agreement; (b) 65 percent of the highest demand
5 previously established during the term of this agreement."

6 A. Yes.

7 Q. And would you consider that to be a ratchet
8 provision?

9 A. Yes. But the impact of this ratchet would be far
10 less significant than the impact of PECO's ratchet. That's
11 something that in everyone of these cases you will find.

12 Q. And the basis for that statement is that it
13 applies to the demand, it does not flow through the energy
14 charges?

15 A. In this case we can talk about the fact that it's
16 a 65 percent ratchet instead of an 80 percent ratchet.
17 We can also talk about the fact that the demand portion and
18 the allocation of effective use hours will not be anywhere
19 near as significant. This demand ratchet would not even
20 affect the university at all.

21 Q. This ratchet does relate to the peak demand during
22 the period of the agreement; is that correct?

23 A. That's correct. Agreements can be rewritten,
24 though.

25 Q. And do you know what the peak demand was

1 historically under the current contract between U of P
2 and the Philadelphia Electric Company?

3 A. The university has significantly reduced its
4 demand over the last several years. It has not changed
5 its contract because there is really no penalty that has
6 been assessed because of a higher contract. If there was a
7 contract provision that was penalizing the university, I
8 assure you that we would have had a new contract long
9 ago. I don't think that is an issue that affects my
10 calculations in the least.

11 Q. Now, on this West Penn Power applicable to
12 Penn State University am I correct that the explicit demand
13 charges are \$6.36 per KVA for the first 10,000?'

14 A. That's correct.

15 Q. And \$6.22 for all additional KVA?

16 A. That's correct. But that is considerably less
17 than what would be my analysis for the university.

18 Q. And this has a flat energy charge of, what,
19 2.535 cents per KWH?

20 A. That's right.

21 MR. KLEPPINGER: Thank you, Dr. Wirtshafter.

22 I don't have any further questions, Your Honor.

23 JUDGE MATUSCHAK: Mr. Ryan.

24 MR. RYAN: Thank you.

25

CROSS-EXAMINATION

1
2 BY MR. RYAN:

3 Q Dr. Wirtshafter, were you here this morning when
4 I asked your colleague, Dr. Feldman, a few questions?

5 A Yes, I was.

6 Q Do you recall the discussion about whether or not
7 the higher load factor customers were considered, at least
8 from PECO's perspective, to be more efficient users of its
9 service?

10 A I recall that discussion.

11 Q Do you recall, as I do, that Dr. Feldman agreed
12 that at least from PECO's perspective that would be true,
13 the high load factor customers would be more efficient users
14 of the system?

15 A I don't recall Dr. Feldman's answer. I don't
16 believe, in fact, that he used PECO's definition of
17 efficiency.

18 Q No, I asked him to assume it and asked him
19 whether or not he agreed, from PECO's perspective that
20 people who are high load factor customers would be more
21 efficient customers from PECO's position. I thought Dr.
22 Feldman agreed that they would be from that perspective.
23 He didn't necessarily agree with me because he used a
24 different definition of efficiency, about productivity,
25 and I took him away from that.

1 Do you recall the discussion at all?

2 A. I recall the discussion.

3 JUDGE MATUSCHAK: Why don't you ask him what he thinks
4 about it?

5 MR. RYAN: I'm really trying to get him to do
6 something else. I'm having problems with his answer to
7 Mrs. Chestnut's question.

8 BY MR. RYAN:

9 Q. Did I really understand you to say that you
10 believe flat demand high load factor customers are undesirable
11 for a utility, at least for PECO because of its generation
12 mix? Is that what you said? That is actually what I'm trying
13 to find out.

14 A. In the case of Philadelphia Electric if all its
15 customers had a high load factor right now with their generation
16 mix they would have a very difficult time and more inefficiency
17 in meeting that load. There is a certain amount of load that
18 exists that is not -- well, let me back up. They have a
19 certain mix of generation. If they had all high load factor
20 customers they would have to run their peaking units all the
21 time.

22 Now, there is a certain amount of load characteristics
23 in the system and PECO tries through its system planning to
24 match the load to the generation mix, together. Those two
25 things work in concert.

1 We have load here, the university and others, that
2 are air conditioning and those loads are better met by
3 peakers. You can do two things. You can try to force those
4 customers to have a flat load if you have the base load
5 capacity to meet that, or you can design a system that
6 efficiently meets that load characteristic.

7 I'm not sure what you mean by "efficient" because
8 you either have to fix the generation mix that's there or
9 you fix the load characteristics that are there.

10 Q. If you were a PECO executive and you had the
11 current generation mix that PECO has, assuming Limerick I
12 is available, as I believe it is to them, would you consider
13 it a desirable goal of PECO to encourage its HT customers to
14 improve their load factors -- to increase their load factors?

15 A. There is testimony in this case from Mr. Rush
16 that indicates --

17 Q. I asked you.

18 A. -- that indicates that there may not be enough base
19 load capacity. So it's a degree. I don't know. We
20 certainly can't encourage them to have flat loads because
21 they do not have the generation mix now to meet flat loads.

22 Q. Would you prefer that the PECO executives
23 encourage low load factor operation?

24 A. I don't think it's a question of encouragement
25 here. I think it's a question of designing rates that

1 reflect the different costs of service. If you take -- and
 2 I think this is critical -- if you take the rates as they
 3 are proposed by PECO, it tries to level the loads through
 4 a price signal and if the customers react correctly and do
 5 level their loads then we end up with three sets of
 6 redundant generation and that is inefficient. Because
 7 the only way our customers are going to level their loads is
 8 by putting in their own generation. They put in their own
 9 generation and then we have their generation, we have Limerick
 10 1 and we have the peaking units that were cancelled in the
 11 first place. That is a very inefficient system.

12 Q Do I understand that one of your recommendations
 13 here is to eliminate the demand ratchet in the HT class?

14 A Yes.

15 Q Were you here the other day when cross-examination
 16 of Mr. Figley took place and it was pointed out that that has
 17 been a tariff feature in PECO since 1969?

18 A I'm aware that it has been a tariff feature.

19 Q Are you aware that it at least impliedly, if
 20 not explicitly, has in several cases been reviewed and
 21 approved by the Commission in each rate case of PECO since
 22 that time?

23 A Yes, and I have been involved in those and each
 24 time the reasons get more and more compelling to get rid of
 25 the ratchet.

1 Q. Were you in the case that was filed by PECO in
2 July of '81 that eventually ended up with a decision of the
3 Commonwealth Court in January of '84 where the Commission's
4 approval of the demand ratchet was upheld by the Commonwealth
5 Court?

6 A. Yes, I was.

7 Q. Now, what is different today that would lead the
8 Commission to revisit this subject once more, since it has
9 been doing it every time since 1969?

10 A. The reasons are that the two reasons for the
11 ratchet no longer apply and they no longer apply to such an
12 extent now that the demand signal is completely out of line
13 with other utilities and it is completely unfair and
14 burdened on those particular customers that are affected by
15 the ratchet.

16 Q. On the low load factor customers?

17 A. No, the winter/summer differential.

18 MR. RYAN: I have no further questions.

19 MR. MORRIS: Your Honor, I have just a few questions.

20 CROSS-EXAMINATION

21 BY MR. MORRIS:

22 Q. Dr. Wirtshafter, may I refer you to page seven of
23 your testimony?

24 MR. SELKOWITZ: I'm sorry. What page?

25 MR. MORRIS: Page seven.

1 BY MR. MORRIS:

2 Q Now, this section is entitled "The Inappropriate-
3 ness of PECO's Cost of Service Allocation Methodology,"
4 correct?

5 A Correct.

6 Q Throughout this section you're discussing cost of
7 service methodology issues?

8 A That's right.

9 Q Am I correct that in this section you decline to
10 advocate a particular cost of service methodology?

11 A That's correct. I do not.

12 Q And at the very end of this section, on page
13 11, would it be accurate to characterize your bottom line
14 recommendation, as stated in the last sentence, that for this
15 rate request the Commission should raise the rates on an
16 equal percentage basis to all classes of customers?

17 A That is correct.

18 Q Could you just explain how that would be
19 computed?

20 A Well, you would take the total rate increase and
21 you would give it to every single group across the board.

22 Q Do I understand you're taking a percentage,
23 whatever that might be, and you would apply it to each
24 class?

25 A That's correct.

1 Q. Now, what figures would you use or what figures
2 would you apply the percentage to?

3 A. Presumably without other changes being made in the
4 total rate base.

5 Q. The total rate base? Is that \$3.82 billion?

6 A. No. It's 6.9635 -- I'm sorry. I take that back.
7 (Pause.)

8 A. The figures as shown on page 6-A and 6-B, I
9 would just use those to calculate so that everyone would have
10 the same percentage rate return from this sheet right here.

11 Q. Are you referring to Exhibit WFS-1?

12 A. Yes.

13 Q. May I just see what you're referring to in
14 particular? Which figures would that be?

15 A. Well, we would take whatever the percentage rate
16 increase to each of these blocks were and then would apply
17 it to each one of these different groups.

18 Q. Do I understand that you would be applying the
19 percentage increase to the existing rates?

20 A. Yes.

21 Q. And those would be the existing rates that were
22 approved in the last rate case?

23 A. That's correct.

24 Q. Are you aware that in the last rate case the
25 Commission approved of the four CP allocation methodology?

1 A. Yes, it did.

2 Q. So you're applying essentially an equal percentage
3 increase to rates which were based, to some extent, on that
4 four CP allocation methodology?

5 A. That's right. But the reason that I think that
6 I offer that suggestion is because that would -- the groups
7 that are seeing the greatest increase in this case are also
8 those very groups that have the even higher rate increase
9 under those four CPs. If you take one of the other options,
10 those groups that are not getting a large rate increase under
11 four CPs would be getting -- would need to have a large rate
12 increase if we used, for instance, the average and excess.
13 So because there is such a variation in the results that occur
14 between these two I have suggested that we just increase the
15 rates across the board.

16 Q. Dr. Wirtshafter, isn't the effect of your
17 recommendation to increase the rates based on revenues
18 allocated under the four CP method in the last case?

19 A. To some degree it is. I don't really think this
20 is a major issue, the cost allocation. I haven't addressed
21 myself to it as much as to the other issue because I don't
22 feel that this is the critical issue in this case.

23 Q. Are you aware in the context of your cost of
24 service methodology analysis of the contract that exists
25 between Amtrak and PECO?

1 A. Only because I've been sitting here for two
2 days. I really don't have any knowledge beyond the questions
3 that you have asked the other witnesses.

4 Q. So that any effects of that contract on the
5 revenues to which you would apply that equal percentage
6 would have to be reflected in the computation that you would
7 make to arrive at the cost allocation?

8 A. In the special considerations for SEPTA and
9 Amtrak I really have not addressed any of those issues
10 in my recommendation.

11 Q. I don't think that's my question. My questions
12 was I think we established that we would take the revenues
13 certain revenues, and we would apply an equal percentage to
14 those revenues. And those revenues are based on existing
15 rates.

16 A. Yes.

17 Q. Now, if the effect of the present contract between
18 Amtrak and PECO would have an effect of reducing those rates,
19 that would have to be taken into account in coming up with
20 your bottom line revenue allocation?

21 A. Yes.

22 Q. Are you familiar with the circumstances under which
23 power is delivered to Amtrak at Thorndale and Perryville?

24 A. Sorry. No.

25 MR. MORRIS: Thank you.

1 No further questions, Your Honor.

2 JUDGE MATUSCHAK: Is there any further cross-
3 examination of this witness?

4 (No audible response.)

5 JUDGE MATUSCHAK: Any redirect, Mr. Selkowitz?

6 MR. SELKOWITZ: Yes. Just a couple of questions.

7 REDIRECT EXAMINATION

8 BY MR. SELKOWITZ:

9 Q You were asked by Mr. MacGregor about contract
10 demands of 52,000 and I guess it was mentioned by Mr.
11 Kleppinger. Was there any additional comment that you felt
12 was necessary on that subject?

13 A Well, as I indicated, the university has done a
14 considerable job in reducing its peak demand. This has
15 resulted in a significant savings to the university.

16 Now, if reducing the demand would not have resulted
17 in the savings because the contract price was to remain the
18 same they never would have made the investments in the first
19 place. So one can presume that the contract requirement is
20 really not a significant factor in the university's bill.
21 If it were it would have been renegotiated.

22 Q You were also asked about the impact of your
23 recommendations on the allocation of the cost of Limerick
24 on bills for the university. Do you recall those questions?

25 A Yes.

1 Q Why was it that you decided to submit your
2 proposal with the knowledge of that result?

3 A You're going to have to give me the whole question
4 again.

5 Q I think you stated what the conditions were that
6 would have to obtain in order for there to actually be an
7 increase to the university based on your proposal. I think
8 you said that it had to do with the company receiving its
9 full rate request; is that correct?

10 A That's correct

11 Q What was your assumption in forming your analysis
12 about that point as far as the results of your program would
13 be concerned?

14 A Well, we did our analysis based on what we believe
15 was fairest and it turns out that the university would receive
16 a rate increase based on our proposals if 100 percent of the
17 rate increase is received. Now, we don't think that 100
18 percent of the rate increase should be received or is
19 justified and therefore the real impact on our customers will
20 not -- our customers will not see a rate increase beyond what
21 PECO suggested from our suggestions.

22 Q Did it matter to you when you were asked by Mr.
23 MacGregor that there were only eight HT customers that were
24 above the usage that you had used in your analysis of
25 customer M-1?

1 A. No, because they are clearly very large customers
2 and the number is really not a factor. I was trying to show
3 a comparison of those customers to our customers and my
4 analysis demonstrates that.

5 Q. You were asked by Mr. Ryan about the encouragement
6 of higher load factors for customers on the PECO system.
7 How would PECO benefits from that compare to society's
8 benefits from that kind of encouragement?

9 A. Well, PECO may be able to generate extra revenues
10 although I firmly believe that they would not because so
11 many people would take the opportunity to transfer load away
12 from demand. But even if PECO itself were to realize an
13 increase in revenues or an increase in its own profitability,
14 society as a whole would be definitely hurt by such a
15 pricing mechanism.

16 It is important that the proper price signal be
17 delivered to the customers as to what the cost of peaking
18 is and that's the purpose of the demand ratchet and the demand
19 signal. And in this case, and in this utility, the cost of
20 peaking units is not \$120 as would be signalled by the
21 proposed PECO rates but is, in fact, less than \$10 per
22 kilowatt, which is the cost of the peaking units that were
23 cancelled.

24 Q. What relationship does that bear to efficient
25 allocation of resources?

1 A. Well, if we don't have proper pricing then the
2 customers will be making investments based upon the price
3 signal that exists. In this case, if we overload the demand
4 signal customers will buy their own generation or will find
5 ways of avoiding demand charges. These will inflict costs
6 upon the customers.

7 If the signal is improper then those customers are
8 reacting to an improper signal and that creates an
9 inefficiency. In this case, as I indicated, we would end
10 up with three sets of generating capacity: Limerick, the
11 peaking units that were there that were being cancelled by
12 Limerick and the third set of generation which would be the
13 customers' own generation. That in the long run is harmful
14 to society and probably would end up being harmful to PECO
15 and to our customers.

16 MR. SELKOWITZ: I have no other redirect.

17 MR. RYAN: May I ask a question on recross?

18 RECCROSS-EXAMINATION

19 BY MR. RYAN:

20 Q. Given the track record of attacking without
21 success the ratchet for the number of years it has been going
22 on, can you tell me how many of the members of your group
23 are now planning to add their own generation, which as you
24 suggested was one of the likely outcomes in the answer you
25 just gave?

1 had perfect load factor peak and demand would be equal and
2 all generating capacity would have to be base load; is
3 that correct?

4 A. Well, you would have to maintain a portion of
5 very quick starting capacity in emergency situations. But
6 it would all be assessed on an equivalent basis, yes.

7 Q. In your opinion how likely is it that all customers
8 will achieve that level of load factor so as to require that?

9 A. In Europe there are many utilities that have 95
10 percent load factors.

11 Q. How about here, for PECO, given its rate design
12 characteristics?

13 A. If you make the prices in such a way the customers
14 will find a way to develop that load factor. It has been done
15 in Europe. It has been encouraged in Europe. But they build
16 different kinds of facilities and they have different
17 characteristics.

18 Q. Let's narrow it to Philadelphia Electric Company
19 in the near-term future within the context of this rate
20 proceeding.

21 A. Well, I think what you're asking me is what is the
22 likelihood of customers reducing their demands, and I think
23 it's very likely. I base that on the customers that I'm
24 looking at. The single energy conservation option that is
25 available to them now if this rate goes through would be to

1 in demand limiters, to put in other kinds of air conditioning
2 systems that are not electric and to put in their own
3 generation systems, all of which would smooth out demand,
4 for no apparent reason.

5 Q Would this smoothing-out of demand result in a
6 100 percent load factor?

7 A It doesn't matter. It will smooth it out to the
8 point where it will increase the load factor and there aren't
9 the base load facilities available in PECO to meet that.

10 MS. CHESTNUT: No further questions, Your Honor.

11 RE-CROSS-EXAMINATION

12 BY MR. MacGREGOR:

13 Q Dr. Wirtshafter, have you made any analysis of the
14 optimal load factor for Philadelphia Electric Company either
15 before or after Limerick?

16 A No.

17 Q Do you know whether the current load factor is
18 above or below that optimal level?

19 A No. I am basing it on the testimony of Mr. Rush.
20 He has indicated that there isn't sufficient base load.

21 Q I'm asking about the system load factor for
22 Philadelphia Electric Company. I believe you stated you do not
23 know what the optimal level of load factor is for Philadelphia
24 Electric Company; is that correct?

25 A Well, I don't.

1 Q So you don't know whether the present system load
2 factor of Philadelphia Electric Company is high, low or
3 equal to the optimal level?

4 A I don't know what you mean by "optimal". That's
5 why I'm having a difficult time with your question. Are you
6 talking in the immediate term, right now?

7 Q Do you know in any term what Philadelphia Electric
8 Company's short-term/long-term goal is as to system load factor,
9 what it believes to be desirable to achieve and whether the
10 current load factor is above or below that?

11 A I don't know what Philadelphia Electric's opinion
12 of the optimum is.

13 MR. MacGREGOR: Thank you.

14 FURTHER REDIRECT EXAMINATION

15 BY MR. SELKOWITZ:

16 Q You were answering some questions from Commission
17 Staff about what would happen if your theory of reaction to
18 this rate increase is true. Is there also an impact on the
19 company's revenues if what you say comes to pass?

20 A Certainly. That's the major impact. If customers
21 generate their own electricity they no longer are going to
22 be paying the demand charges and that will have a significant
23 impact on the stability of the revenue that PECO collects.

24 MR. SELKOWITZ: I have no other questions.

25 JUDGE MATUSCHAK: You would have to agree that any

1 optimal load factor for Philadelphia Electric would have to
2 be less than 100?

3 THE WITNESS: Yes.

4 JUDGE MATUSCHAK: You indicated that indirectly when
5 you said it would not be efficient to have all high load
6 factors on the system.

7 THE WITNESS: There are issues involved in having
8 very high load factors. You have to increase your reserve
9 margin significantly as your load factor gets higher.

10 Of course, you can't have higher than 100 percent
11 by definition.

12 JUDGE MATUSCHAK: Anything further of this witness?

13 MR. MacGREGOR: No, Your Honor.

14 JUDGE MATUSCHAK: Thank you.

15 (Witness excused.)

16 JUDGE MATUSCHAK: The next session of the hearings
17 we have scheduled will be in Harrisburg on February 25th
18 and 26th.

19 MR. MacGREGOR: That's correct, Your Honor, February
20 25th for rate of return and February 26th for the 80/20 ECR.

21 JUDGE MATUSCHAK: Now, what witnesses are you expecting
22 to testify on those days?

23 MR. MacGREGOR: On the 25th of February it is the
24 rate of return witnesses, Your Honor, Mr. Brennan for the
25 company and Mr. O'Donnell for the Staff, Mr. Rothschild for

1 the OCA and Mr. Winter for the GSA.

2 And then on Wednesday, for the 80/20, it's Mr.
3 Wilson for the Governor's Energy Council, Mr. Hosler and
4 Mr. Rosenthal for the Staff.

5 JUDGE MATUSCHAK: Very well. If there are no
6 objections we will adjourn at this time until 10 o'clock on
7 February 25th in Harrisburg.

8 (Whereupon, at 1:11 p.m., the hearing was adjourned,
9 to be reconvened at 10:00 a.m. on Tuesday, February 25, 1986,
10 in Harrisburg, Pennsylvania.)

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C E R T I F I C A T E

I hereby certify, as the stenographic reporter,
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