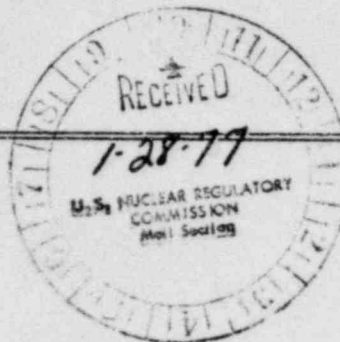


Regulatory

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IN THE MATTER OF:

CONSUMERS POWER COMPANY

(Midland Units 1 and 2)

Docket Nos. 50-529
50-330

THIS DOCUMENT CONTAINS
POOR QUALITY PAGES

Place - Chicago, Illinois

Date - Friday, 21 January 1977

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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 In the matter of: :
 :
 CONSUMERS POWER COMPANY :
 : Docket Nos. 50-329
 (Midland Units 1 and 2) : 50-330
 :
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Room 201-A
Everett M. Dirksen Bldg.
219 S. Dearborn Street
Chicago, Illinois

Friday, 21 January 1977

Hearing in the above-entitled matter was convened
pursuant to notice, at 9:30 a.m.

BEFORE:

- FREDERIC J. COUPAL, Esq., Chairman
- EMMETH LUEBKE, Member
- J. VENN LEEDS, Member

APPEARANCES:

(As heretofore noted.)

blt

C O N T E N T S

<u>Witnesses</u>	<u>Direct</u>	<u>Cross</u>	<u>Redirect</u>	<u>Recross</u>	<u>Board</u>
Gordon L. Heins (Resumed)		1749			
Philip L. Bichel	1806	1867			

E X H I B I T S

<u>No.</u>	<u>Identified</u>	<u>Received</u>
Board No. 3 (Presentation to Michigan Air Pollution Control Commission, 1/13/77)	1748	
Midland Intervenor's Group Exhibit No. 12 (5 yellow pages, handwritten, made by witness)	1767	
Midland Intervenor's Exhibit No. 13 (Calculations)	1793	
Midland Intervenor's Exhibit No. 14 (Keene ltr to Stafford, 10/27/76)	1819	
Midland Intervenor's Exhibit No. 15 (Brush ltr to Kaiser, 10/14/76)	1819	
Midland Intervenor's Exhibit No. 16 (Whitney ltr. to Kaiser.)	1830	
Midland Intervenor's Exhibit Nos. 17, 18, 19, and 20 (Pages removed from Mr. Bichel's book)	1859	
Midland Intervenor's Exhibit No. 21 (Load Management Survey)	1866	
Midland Intervenor's Exhibit No. 23 (Projection as of 3/25/76)	2019	

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P R O C E E D I N G S

CHAIRMAN COUFAL: The plan is to proceed with Mr. Bikel this morning.

MR. CHERRY: I want to ask a couple of questions of Mr. Heins first.

MR. ROSSO: Mr. Chairman, I have a preliminary motion before we get started on that.

CHAIRMAN COUFAL: Wait a minute. Mr. Cherry said he had a couple more questions, preliminary questions, of Mr. Heins. Is he around?

MR. ROSSO: Yes; Mr. Heins is here.
But I do have a preliminary motion.

CHAIRMAN COUFAL: Fine.

MR. ROSSO: Mr. Chairman, yesterday Dow Chemical Company provided to all of the parties a copy -- and to the Board -- a copy of a document entitled presentation of Michigan Air Pollution Control Commission, January 18, 1977.

In this proceeding the precedent has been set where the Board previously marked as its own exhibits, Board Exhibits numbers 1 and 2, two documents which had been produced by the Dow Chemical Company and which the Board at least thought it wanted to have in the record.

I would move at this time that the Board mark the document entitled, "Presentation to Michigan Air Pollution Control Commission, January 18, 1977," produced by Dow, as

Board Exhibit number 3 and admitted into evidence in the record.

CHAIRMAN COUFAL: If we do that, do you have enough copies?

MR. ROSSO: Yes, sir. Copies were provided to everyone except the reporter yesterday and we do have enough copies so that we could give them to the reporter today.

CHAIRMAN COUFAL: Is there objection?

MR. CHERRY: Yes; I object. The proper time to produce the Dow exhibit is when Dow people are on the stand ready for cross-examination. I don't mind it being marked but obviously it can't be offered into evidence until there is some foundation for it.

CHAIRMAN COUFAL: Does anyone else have one.

MR. HOEFLING: Yes, Mr. Chairman. I think it would be more appropriate to hold off on that until that witness returns to the stand for cross-examination on the document.

CHAIRMAN COUFAL: Mr. Wessel?

MR. WESSEL: I had nothing to say until that comment, but that witness, the man that presented it for Dow is a man named Hunter Henry who has replaced Mr. Temple on the Dow position. That witness has not been called and see no reason why he would be. Mr. Temple will be here.

I just want the Board to know that is a Company statement.

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MR. CHERRY: I have no objection to Mr. Temple being the witness, if he understands and knows the document. I don't care about Mr. Henry. It just doesn't make sense to me. You don't put documents in evidence --

MR. WESSEL: I have no comment on that.

MR. CHERRY: This is Dow Chemical Company's position to the Commission, however you want to put it in.

MR. ROSSO: I think it is very important to have this document in evidence, Mr. Chairman. Mr. Hunter Henry has not been called as a witness in this proceeding.

As Mr. Wessel has said, this is a Dow corporate position. It ought to be in the record. The precedent has already been set in this proceeding for the Board to put documents in the record of its own volition when ever it felt that the documents were important.

And I move again that the Board do so in this case.

CHAIRMAN COUFAL: Dr. Leeds points out to me that Mr. Oreffice is going to be here for the Dow position. He would be an appropriate witness by whom to get in it.

MR. ROSSO? I am sorry.

CHAIRMAN COUFAL: Mr. Oreffice is going to be here as I understand it, and Dr. Leeds points out to me that that would be an appropriate witness through whom to get the document in, if that is your desire.

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It may be marked as Board Exhibit 3. And it may be offered, at least through the testimony of Mr. Oreffice when he testifies.

MR. ROSSO: Fine.

I will now hand the reporter 3 copies so that they may be marked for an exhibit, Board Exhibit 3.

(Whereupon, the document entitled Presentation to Michigan Air Pollution Control Commission, January 18, 1977, was marked Board Exhibit Number 3 for identification.)

MR. CHERRY: Is the Board marking it as exhibit

3?

CHAIRMAN COUFAL: We are putting a number on it; Board Exhibit 3, to identify it.

Do you object to the Board marking it?

MR. CHERRY: Sure. It is not your document. It seems to me if he wants it, he should mark it.

The other two were initiated as Board exhibits. It seems to me that this should be marked as Consumers Power exhibit and they should have the obligation of getting a witness here to identify it.

MR. HOEFLING: Mr. Chairman, is Mr. Cherry going to continue his examination on Intervenors' 10 and 11?

barbs
The Staff doesn't have copies of them. We understood that we would get them this morning, so we could follow the cross.

MR. CHERRY: I have taken care of all that.

May we have Mr. Heins on the stand, please?

CHAIRMAN COUFAL: Mr. Heins?

Whereupon,

GORDON L. HEINS

resumed the stand on behalf of the Applicant and, having been previously sworn, was examined and testified further as follows:

MR. CHERRY: Was that marked as a Board exhibit?

CHAIRMAN COUFAL: It has been marked as a Board Exhibit. I think it was invited by the Board. The Board asked for the report originally.

CROSS-EXAMINATION (Continued)

BY MR. CHERRY:

Q Mr. Heins, you have been previously sworn. Do you know, Mr. Heins, the relationship between safety of nuclear power plants and degradation or failure of steam generator tubes?

A No.

Q You do not.

In your consideration that you believe based on everything that you have discussed with persons whom you did not identify, that there would be further degradations

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of the steam generator tubes between now and 1981 or 1982, was there any discussion as to whether that event or series of events would cause a safety problem at Palisades?

MR. ROSSO: Objection. Safety at Palisades is certainly not an issue on remand in this proceeding.

CHAIRMAN COUFAL: Well, the issue of whether or not Palisades stays on the line, I suspect, is relevant to the inquiry we are making now.

And I presume Mr. Cherry will get into that.

MR. ROSSO: But, sir, that is a question that does not have to do with safety at this point in time.

MR. CHERRY: Well, I think the Board understands.

CHAIRMAN COUFAL: The point is, I suppose, that the Palisades would be shut down for one reason or another for safety reasons by the Commission or someone in authority whether or not Midland itself shut down.

And we are not going to go into an examination of Palisades steam generator tubes, but if there is a point to be made that somebody could shut Palisades down for safety reasons on account of the steam generator tubes, then that is relevant to whether or not the load forecaster --

BY MR. CHERRY:

Q Do you have the question in mind, Mr. Heins?

A No.

MR. CHERRY: Could we have the question read.

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(Whereupon, the reporter read the pending question as requested.)

THE WITNESS: I do not recall any mention or discussion of the safety problems. One of the responsibilities that I had in my job is that of the group called the system protection and laboratory services department.

These are the people who do -- have done the testing, nondestructive testing, on the Palisades steam generators.

I have taken a considerable interest in this, although I do not have the background nor the experience in nondestructive testing. I have talked at length with these people, the supervisors and the manager of that department, and it is my understanding that at this time there is a considerable margin required by the Nuclear Regulatory Commission in tube wall thickness. At this point plugging is required. There has to be something in the order of 50 percent original tube wall thickness remaining in order to leave the tube unplugged.

In my consideration, the conservative nature of this criteria plugging -- tube plugging has led me to feel secure in the safety aspects of the steam generating tubes.

MR. CHERRY: Mr. Chairman, I move to strike everything; except: No; he did not have any discussions. His gratuitous opinion on safety; he is now a self-proclaimed nonexpert who doesn't understand the information.

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CHAIRMAN COUFAL: I think the response was non-responsive. I will agree with that and strike the part of it that you mentioned because it was not responsive.

MR. ROSSO: I am sorry, Mr. Chairman. I didn't understand you. I am having trouble hearing you.

MR. CHERRY: I moved to strike everything after the answer no, and the Board Chairman just sustained my motion on the grounds that --

CHAIRMAN COUFAL: That it was non-responsive.

MR. ROSSO: I would ask you to reconsider that. I think it was responsive. This man was asked whether he had any discussions with regard to safety at the Palisades plant due to the tube degradation, and he answered with regard to the discussions which he had which related to safety.

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CHAIRMAN COUFAL: When the transcript comes out, you can renew your motion, Mr. Rosso.

BY MR. CHERRY:

Q Now do you know, Mr. Heins, how many steam generator tubes, if they fail during a loss of coolant accident, renders under the emergency core cooling system that you have at Palisades, renders that system inoperable?

A No.

MR. ROSSO: Objection.

CHAIRMAN COUFAL: It has been answered.

BY MR. CHERRY:

Q Now if I ask you to assume with me, Mr. Heins, that five steam generator tubes, if they failed, could render inoperable the emergency core cooling system. I ask you to assume that fact.

Would you still feel comfortable in permitting the Palisades plant, from a safety standpoint, given your broad experience, to operate for the next seven years?

MR. ROSSO: Objection, on two bases.

One, there has been no testimony with regard to any failure of steam generator tubes at Palisades; and two, now we are beginning to try, in this case, the question of the steam generator tubes at Palisades and any imagined questions of safety thereto.

And I suggest that this line of questioning has gone

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far enough and that the Chairman can see where it is going now. It is totally irrelevant.

CHAIRMAN COUFAL: I agree. I think it is irrelevant.

MR. CHERRY: I would like to just point out for the record, and then I will go on. This gentleman has testified that a certain element of continued degradation of steam generator tubes is used as a conservative projection for him to have a certain megawatt derating by the year 1981.

I have checked last night both with NRC personnel and it is my understanding that the AEC would never permit a plant to operate for seven years with that kind of problem.

I am serving notice on Consumers. I am filing a motion based on Mr. Heins testimony, with the NRC, to object to the permanent operating license and to reopen the Palisades hearing on the basis of Mr. Heins expert testimony that there is going to be a continued degradation.

So we will see you as a witness there.

I think it is relevant, because I think that this witness is trying awfully hard to say whatever he feels is comfortable --but it is beyond his expertise -- has, in effect, given an overall projection as to Palisades operation. And it seems to me that if, therefore, this witness has opened himself up based on his own testimony as to whether or not the plant can operate under NRC regulations, that, in

mm3

turn is relevant to the question of the load forecast. Because if the NRC shuts the Palisades plant down tomorrow and it was fixed by 1981, then you would have on line the full megawatt generating capacity in connection with the load forecast.

So I would ask you just to consider that fact. I think my question is extremely relevant.

CHAIRMAN COUFAL: I understand the point of view that you made, Mr. Cherry.

I think the objection is good and it is sustained.

BY MR. CHERRY:

Q Now Mr. Heins, do you know if Consumers Power Company has inquired of the Nuclear Regulatory Commission as to whether or not Palisades can operate within NRC safety regulations, assuming a continued degradation of steam generator tubes between now and 1981?

A I do not know.

Q You do not know.

Do you think that is a relevant inquiry in connection with your assumption on forecasting, Mr. Heins?

MR. ROSSO: Mr. Chairman, again I object to this line of questioning as irrelevant.

CHAIRMAN COUFAL: Overruled.

BY MR. CHERRY:

Q Do you think that is a relevant inquiry under your assumption for the load forecast?

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A Yes, that is a relevant question.

Q But you haven't made that inquiry?

A That is correct.

Q Now if the NRC would not permit Palisades to operate under the assumption you have postulated, then your load forecast is incorrect.

Is that correct?

A No, not necessarily.

DR. LEEDS: Excuse me, Mr. Cherry.

I think the record might be confused at this point.

You are asking about load forecast.

I am having difficulty understanding how --

MR. CHERRY: I will amend my question and say:

BY MR. CHERRY:

Q Would your reserve analysis or the projections you have set forth about what your available reserve will be; would those be in error if the Nuclear Regulatory Commission would not permit Palisades to operate under the circumstances you have postulated?

A Not necessarily.

Q Please explain your answer.

A As I said yesterday, there is one other serious matter, very serious matter which concerns me regarding the generating capability of the system. And that is the supply of oil to 1586 megawatts of oil-fired capacity dependent

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at this moment on importing crude.

Q Where is that in the testimony?

That concern of yours, where is that in the testimony as the basis for your calculation of reserves, Mr. Heins?

A On page 11, in the paragraph -- second paragraph there is some mention of this point.

Q Page 11.

What paragraph, Mr. Heins?

A The second paragraph on that page.

Q The sentence that says:

"While we have contracted for adequate fuel supplies for these units through 1981, delivery is contingent upon continuing approval by the Canadian National Energy Board and U. S. authorities."

Is that right?

A That and the other sentences in that and the following paragraph that relate to Exhibit 12.

Q I see.

"Curtailement of contract deliveries or the refusal or inability of suppliers to extend the contracts beyond 1981 could result in inadequate oil supplies for Karn and Weadock."

Is that correct?

A I believe you read that correctly.

Q Now, if you couldn't get any money to build the

mm6 Midland plant, would that affect your reserve requirement?

A If we could not build Midland, yes.

Q Okay.

If there was a war between Canada and the United States, would that affect your reserve requirements?

A I don't know.

I presume it would.

Q Why do you presume it would, sir?

A If the nations were at war, I would presume that all transfer of commodities might cease.

Q And if everyone in the State of Michigan got hepatitis and couldn't work, you wouldn't have a labor force, is that true also?

MR. ROSSO: Mr. Chairman, all right, I think I have to object to that one. We think this has gone on far enough.

If the moon fell on us we would all be dead.

MR. CHERRY: That is precisely what I want to show about these sentences in this testimony.

May I have a ruling on that?

MR. ROSSO: I object.

CHAIRMAN COUFAL: You made your point, I think, Mr. Cherry. I will sustain the objection.

BY MR. CHERRY:

Q Now, do you have available the contracts for fuel supplies which you have deemed adequate for 1981?

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A No, I do not have them.

Q Have you ever read them?

A No.

Q You have never read them?

How do you know then that delivery is contingent upon continuing approval by the Canadian National Energy Board?

A I have discussed this matter with those men from the fuel supply department who are responsible for these affairs.

Q You are a messenger. You find out what everybody else believes, and you tell --

MR. ROSSO: Mr. Chairman, I object.

First of all, the witness's answer was interrupted.

Second of all, counsel insists on inserting gratuitous comments like "I see," and things like that while the witness is trying to answer.

And third of all, he cut the witness off while he was trying to answer.

And fourth of all, I object to the characterization of this witness, the systems planning manager for the entire company, as a messenger.

CHAIRMAN COUFAL: All right.

Finish your answer, Mr. Heins.

THE WITNESS: It is as stated before, a matter of me not doing all the work associated with running an entire

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Consumers Power Company.

I have responsibilities for certain areas and it is always necessary for me to depend upon others whose judgment I trust and value, and whose integrity I trust and depend upon.

BY MR. CHERRY:

Q Who wrote this testimony, Mr. Heins?

A Mr. Lapinski and I wrote this.

I believe I wrote the majority of it.

Q Okay.

I want to go through each paragraph, and you tell me what you have personal knowledge about. In other words, let's say you have already told me that you do not have personal knowledge of the load forecast which begins on page 2, is that correct?

MR. ROSSO: I object, Mr. Chairman.

This isn't going to get us anywhere.

CHAIRMAN COUFAL: I don't know whether it is going to get us anywhere or not.

I think counsel has got a right to go through the testimony and see what information here is that of the witness and which is garnered from somewhere else.

MR. ROSSO: All right, sir. But you know, when you have a corporate situation --

CHAIRMAN COUFAL: I understand. I understand that

the witness must get information from other persons.

MR. CHERRY: I am not objecting that the witness must get information from other persons.

I am objecting that the witness doesn't have the information. It is not an acceptable answer.

CHAIRMAN COUFAL: I overrule the object, Mr. Cherry. Go ahead.

BY MR. CHERRY:

Q It is true though, if I ask you questions about load forecasting, you told me yesterday that you did not know the factors that went into the coding probabilities and you didn't sufficiently understand the Bickel study discussed, is that right?

MR. ROSSO: That is a mischaracterization of the testimony.

CHAIRMAN COUFAL: He asked if that is correct.

Now, Mr. Rosso, this is cross-examination. Counsel has got some latitude in how he asks his questions.

Go ahead, Mr. Cherry.

BY MR. CHERRY:

Q Is that correct, Mr. Heins?

A I do not recall testifying to that.

Q Okay.

What are the factors that were used by the Executive Review Committee in the probability of coding analysis?

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A I have no knowledge concerning those factors that were used in the probability and coding of the Executive Board forecast.

Q So that it is true that you cannot tell me anything about how the load forecasting was actually arrived at by the energy board, other than they were great people who were sincere and did their job and did it well?

A I cannot tell you the factors that they considered while making their subjective assessment.

Q In fact, you cannot tell me anything about it except the people who were on it?

A I could describe in general, the process that was used.

Q But you don't know that, you didn't participate in that process. did you?

A I did not participate in that process.

Q So you don't know that, isn't that correct?

A I don't know that.

Q Okay.

And in connection with the Bickel analysis yesterday, I tendered a computer code to you and you weren't able to deal with that, is that correct?

Because if you are, I will put them right back in front of you.

A The exhibit that you presented to me yesterday

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afternoon, I am not competent to read through that, understand it and explain it to you.

Q Okay.

So we have now covered pages 2 and 3 of your testimony as having no personal knowledge.

The information as contained on page 4, do you have personal knowledge to how those figures were arrived at?

MR. ROSSO: Which figures are we referring to?

I object to the question and ask which figures are we referring to?

CHAIRMAN COUFAL: Can you supply the figures.

MR. CHERRY: All figures on page 4.

BY MR. CHERRY:

Q Do you know how any of them were arrived at, to your own personal knowledge?

A Yes.

Q All right.

How was the 5.2 percent annual growth rate projected?

Give me the factors and the analysis of how it was?

Tell me when you did that projection?

A This was a projection, to confirm the study that was done by Mr. Bickel.

Q Oh, so the page 4 still deals with the Bickel study?

MR. ROSSO: Mr. Chairman, I have to object again.

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committee that you have no knowledge about, that is how they operated; and the Bickel study which you don't understand.

Is that correct, or isn't it?

MR. ROSSO: Mr. Chairman, the witness has been trying to answer the question further. He was interrupted first when Mr. Cherry started to speak; he tried to speak twice while Mr. Cherry was speaking and Mr. Cherry continued on. He hasn't finished his answer.

I ask Mr. Cherry to let him finish his answer.

CHAIRMAN COUFAL: Finish your answer, Mr. Heins.

THE WITNESS: I do have some understanding of the Bickel study techniques.

The materials you presented to me yesterday, I could not read, explain and interpret to you.

I also said yesterday that there would be a level of the Bickel study techniques beyond which I do not go.

BY MR. CHERRY:

Q What level?

CHAIRMAN COUFAL: Are you finished, Mr. Heins?

THE WITNESS: The numbers on page 4, the 32 percent, 23 and 41 percent were calculated by myself.

BY MR. CHERRY:

Q How?

A By looking at the projected main system energy sales for residential, commercial and industrial --

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He asked, do you know how any of the figures on page 4 were derived.

The witness said, yes.

Then he points to one particular one, asks questions about that one, and then says it is a characterization of the record, therefore all of page 4 is something that you don't know anything about.

Let him go through each figure on page 4, if that is what he wants.

CHAIRMAN COUFAL: Just a minute, Mr. Cherry.

Mr. Heins had not finished his answer when you interrupted, Mr. Cherry.

Go ahead and finish your answer.

THE WITNESS: That 3.2 percent is our projected annual sales average cumulative growth rate, compounded growth rate.

It was determined by probability assessment and confirmed by the Bickel study.

BY MR. CHERRY:

Q I know all that.

But you can't tell me about the probability assessment since you don't understand the Bickel study sufficiently to deal with the computer papers.

All I want to know is, does page 4 fall within one of those two categories, i.e. the executive review

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Q And where did you get that?

A -- Determining percentage.

The projection was that of the energy forecast executive review committee, 5.2 percent.

Q Then what did you do?

A Calculated the components of residential, commercial and industrial sales of total energy sales.

Q How did you do that?

Tell me the steps involved?

A I took the projected residential energy sales --

Q What is that number?

CHAIRMAN COUFAL: Let him finish his answer,
Mr. Cherry.

THE WITNESS: -- total hours, and divided it by the total main system sales for the year. I did this for several years through the period, for the '80s.

BY MR. CHERRY:

Q Well, let's go through.

I want to go through each of the details. Can you give me the information and use that in connection with arriving at the 32 percent figure?

A You want the numbers?

Q I want you to go through the calculation for me, Mr. Heins, so you can explain to me how you arrived at 32 percent.

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A I will need a reference sheet from my black notebook, which is filed under page 4.

(Document handed to witness.)

This is the one.

Q Can I see what you are looking at, Mr. Heins?

A Surely.

Q By the way, do you have the figures that you reviewed last night?

A Yes, I do.

Q May I have them?

MR. CHERRY: I have made a set of exhibits for the Staff, for Dow, and one each for the members of the Board. I have not made one for Consumers since they have all the exhibits, they produced it.

The document that Mr. Heins referred to is Dow Project Proposed Revision Main System Electric Sales Forecast by Class, is Exhibit 11.

CHAIRMAN COUFAL: Is that Exhibit 11 attached to the testimony?

MR. CHERRY: No.

My Exhibit 11, Midland Intervenor's.

MR. ROSSO: I'm sorry, sir. I was dealing with some questions we had here at counsel table and I missed what was said.

CHAIRMAN COUFAL: Mr. Cherry said that the figures

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that the witness is now considering on that piece of paper that he got from his notebook, as I understood it, Mr. Cherry said that piece of paper is in Mr. Cherry's Exhibit 11.

Is that what you said, Mr. Cherry?

MR. CHERRY: Yes, sir.

I will show you what it looks like, and then you can find it in the exhibit.

CHAIRMAN COUFAL: Is it a paper entitled Main System Electric Sales Forecast by Class? Is that the document we are talking about?

MR. CHERRY: Right.

THE WITNESS: These are the calculations that I did last night, which I understood to be requested yesterday afternoon.

MR. CHERRY: I have here five yellow pages, Ms. Reporter. Would you mark them as Midland Intervenor's Group Exhibit 12.

(Whereupon, five yellow pages, handwritten, were marked Midland Intervenor's Group Exhibit 12 for identification.)

BY MR. CHERRY:

Q Mr. Heins, you say you have calculated the numbers on page 4 of your testimony by reference to the document, Main System Electric Sales Forecast by Class, which appears in

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Exhibit 11 of the Intervenor's.

Is that correct?

A I haven't seen your Exhibit 11.

(Mr. Cherry showing document to witness)

Q I have just described the document I am holding in my hand.

Is that the document you used to figure, to calculate the figures on page 4 of your testimony?

MR. ROSSO: Could the witness be allowed to examine the document and corroborate that it is in fact the same thing that he has before him?

(Document handed to witness.)

THE WITNESS: Yes, that is the same document.

BY MR. CHERRY:

Q Where did you get the figures that appear on the top line in the column entitled "Residential," and go across the column?

Where did you get those figures?

A These are the results of the Bickel confirmatory class-by-class study of future electric growth.

Q You mean they come from the remainder of the Midland Exhibit 11?

A This item F was material furnished to Dr. Timm, which was intended to demonstrate a concise -- in a concise form to him, the process and the steps used in the Bickel

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confirmatory study.

I would expect that these numbers would either be in this material or calculable from this material.

Q Can you confirm that for me?

A No.

I am not competent to read that material and explain it to you.

Q Do you know, Mr. Heins, whether or not the figures that appear opposite "Residential" have been arrived at using all applicable factors in the document we are talking about, Exhibit 11?

MR. ROSSO: Objection to the question as vague.

What does all applicable factors mean?

CHAIRMAN COUFAL: I don't know whether that is a question that can be answered by an expert in this room or not.

Can it, Mr. Heins?

THE WITNESS: Actually to answer it -- I can't answer it honestly. I know of many of the factors, but whether that is an exhaustive list of all of them, I don't know.

BY MR. CHERRY:

Q Tell me the factors that will impinge upon arriving at that residential set of numbers at the top of the column?

A Some of the factors that would impinge upon determining the residential future electric sales would be the

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the population growth or change in Michigan in our service area, the acquisition of new or different appliances and energy-using products by those residents in our service area, the way people live, the number of people per residential meter, life style, the type of housing that they would live in -- bigger, smaller, better insulated, multiple unit -- the conservation -- the effect of the better use of the cost of energy and other commodities and products which they might want.

Q You mean the higher price might decrease the amount of energy?

MR. ROSSO: Has the witness finished his answer to the prior question?

CHAIRMAN COUFAL: Has you, Mr. Heins?

THE WITNESS: I have not.

MR. ROSSO: May I move then that that last question be struck until the witness completes his answer to the prior question?

CHAIRMAN COUFAL: Yes.

Finish your answer, Mr. Heins, then we can get Mr. Cherry's question read back.

THE WITNESS: Yes, sir.

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The availability of other energy forms, the anticipation in the thinking of people concerning this availability even before the change is in order, the general

mm20

economic conditions of the State of Michigan, and how employment moves, whether people are working or not, the weather.

Perhaps that is all I should take time to recollect.

BY MR. CHERRY:

Q Take all the time you need, Mr. Heins.

Have you completed your answer?

A No.

I will continue attempting to think of additional factors.

Q Okay.

A I will close with the possible availability of a unique or large energy-using device that we haven't foreseen. That is an important estimate.

Those are all the factors I can think of at this moment.

Q A large energy device that we haven't foreseen?

A Yes, sir.

Q Such as an electric power power witness.

MR. ROSSO: I'm sorry, I didn't get that last comment. Or an electric what?

MR. CHERRY: Witness.

MR. ROSSO: Move to strike.

CHAIRMAN COUFAL: Strike it.

MR. CHERRY: That is an unforeseen element in the

mm21

future that might --

BY MR. CHERRY:

Q Now Mr. Heins, were all of these factors used in the projection of the residential numbers that are in the document we are talking about?

A I believe they were.

Q How was the unforeseen future machine used?

A The simple absence of the possibility of something of this nature that we can now foresee impact -- we did not postulate the addition of an electric septic tank or an electric car over the period of this forecast.

bit 1
egin 3

Q So it wasn't one of the factors that was used?

MR. ROSSO: Objection. The witness has answered the question.

CHAIRMAN COUFAL: Overruled.

I don't understand the status of the answer.

THE WITNESS: In the past, growth in electric energy --

MR. CHERRY: Excuse me. I have a question. Could I get my question answered?

BY MR. CHERRY:

Q Based on your answer, Mr. Heins, this future machine impact was not one of the factors because you don't know what it is, correct?

MR. ROSSO: I'm going to object. That's a mis-characterization. I pray the Chairman will allow the witness to answer the question in his own way.

CHAIRMAN COUFAL: Answer the question, Mr. Heins.

MR. CHERRY: Answer my question.

CHAIRMAN COUFAL: Did you consider these possible future events?

THE WITNESS: We considered them and decided not to anticipate such a thing. That's the consideration of the factor.

BY MR. CHERRY:

Q Now, Mr. Bickel worked on the computer study, is

lit 2

that correct?

A Item F?

Q It's Exhibit 11, Midland Intervenor's, is what it's is marked.

Now, did Mr. Bickel --

CHAIRMAN COUFAL: Wait a minute. He hasn't answered.

MR. CHERRY: I think he said yes.

CHAIRMAN COUFAL: I missed it, then.

Did you say yes?

THE WITNESS: No, sir.

CHAIRMAN COUFAL: No, he didn't say yes.

Answer the question.

THE WITNESS: This is Mr. Bickel's work, yes.

BY MR. CHERRY:

Q Did Mr. Bickel consider all of those factors when he arrived at the numbers you used to calculate the figures on page 4 of your testimony?

A In my discussions with Mr. Bickel --

Q Just a moment, now. Did Mr. Bickel use the factors you've just told us about in arriving at the figures that you used to arrive at the numbers on page 4 of your testimony?

If you know, tell me; if you don't know, I'd like to go on. I don't want to speak to that.

CHAIRMAN COUFAL: He's trying to tell you, Mr.

lt 3

Cherry.

MR. CHERRY: He's trying to give a speech.

CHAIRMAN COUFAL: Answer, Mr. Heins.

THE WITNESS: To the best of my knowledge, yes.

BY MR. CHERRY:

Q How did Mr. Bickel use price?

A My understanding of his use of price?

Q That's right.

A Price of what?

Q Well, what relevant price of what commodity is relevant to these numbers you postulated?

A Cost of all items -- housing, energy, groceries -- would enter into the expected use of electricity.

Q I meant price of electricity.

A Mr. Bickel did a subjective consideration of the effects of price elasticity on the probable future usage of electricity.

Q What did he conclude in this subjective consideration?

A I don't know what the results of that particular aspect were, Mr. Cherry.

Q You don't know whether he concluded that the price of electricity would increase or decrease residential usage? You don't know whether he did that or not?

A He assumed an increasing price in electric energy

It 4
over the period.

Q And an increasing usage?

A Yes, and an increasing usage.

Q So that Mr. Bickel's assumption was that the higher the price, the more energy will be used?

MR. ROSSO: Objection, Mr. Chairman. That's a mischaracterization of the testimony.

MR. CHERRY: Damn it, sir, I'm entitled to an answer to these questions. I'm getting tired of this.

Send him to law school so he can learn how to be a lawyer.

CHAIRMAN COUFAL: Strike that.

Answer the question, Mr. Heins.

THE WITNESS: The growth rate that resulted in the residential anticipated usage reflects a higher price of energy and some anticipated subjective considerations of these higher prices and their effect on customer usage.

This growth rate that we're anticipating for residential is lower than we had experienced in the period up until 1973, when the oil embargo took place.

BY MR. CHERRY:

Q Are you telling me that the increase of price will decrease or increase the usage you would otherwise estimate, or have no effect?

A The assumption that we are making is that an

bit 5

increasing price at some point will result in decreasing use of electric energy.

Q At what point, Mr. Heins?

A I don't know.

Q Does Mr. Bickel know, do you know?

A I don't know.

Q You don't know if he knows.

Now, you told me earlier, Mr. Heins, that part of your concern in connection with your calculation of reserve was that the oil suppliers with whom you now have contracts might not renew after 1981, is that correct?

A Our concern predates 1981.

Q They might not renew tomorrow?

A The contract calls for deliveries through 1981, but both the Canadian Government and the United States Government, through the Federal Energy Authority, have exercised some control over the amount of oil that we get. It is entirely possible that, although the contract calls for deliveries through 1981, that the supply can be reduced or even shut off before that.

Q Anything is possible, but what I want to know is: is this speculation on your part, or is it based on information that you received from FEA, the Canadian National Energy Board, or the United States authorities.

A This information was gained by my company from

blt6

these agencies and perhaps others. This information was then related to me by those who are responsible for fuel supply.

Q And people at your company told you that they were informed there was a serious problem about continuing to receive oil supplies under these contracts?

A Yes.

Q Have you reported that, do you know, in your Securities and Exchange filings? Have you informed your shareholders about the possibility that you would not have oil next year or the year after?

MR. ROSSO: Objection. Irrelevant.

CHAIRMAN COUFAL: Overruled.

THE WITNESS: As I recall, it has been mentioned in those documents that I have had an opportunity to read.

BY MR. CHERRY:

Q Which ones, Mr. Heins?

A The Securities and Exchange Commission filings that had to do with selling stocks or bonds.

Q Can you identify one for me?

A If I saw one, I would probably remember whether or not I had read that one.

Q I'm asking you if you can identify any document that you believe you saw the statement in.

MR. ROSSO: Objection. I think the witness has already answered that question to the best of his ability.

1t 7

CHAIRMAN COUFAL: Overruled.

THE WITNESS: When I see these documents, it's generally in the draft stage.

MR. CHERRY: Sir, may I have the witness answer the question as to whether he can now identify any documents to which he referred?

CHAIRMAN COUFAL: Yes.

BY MR. CHERRY:

Q Answer my question, Mr. Heins.

A I cannot at this moment identify a particular document of that sort. When I see these documents, it's in the draft stage and I will see several copies as changes are made and they are getting nearer completion.

The date upon which the document is issued, published and submitted, or filed, I never -- rarely pay any attention to that particular date; therefore, I cannot identify a date and a particular document associated with that date.

Q So you read the drafts and anticipate the arrival of the final copy?

A Yes.

Q And someone else prepares the final copy?

A Yes.

Q And you don't always look at the final copy?

A Yes.

Q So how do you know what was in the draft was in

1t3

the final copy?

A I have no direct knowledge of that.

Q So you really don't know whether there's been any information to the SEC about this problem.

A That's correct.

Q Why did you tell me you did know?

MR. ROSSO: Objection. Argumentative.

CHAIRMAN COUFAL: Sustained.

THE WITNESS: May I answer?

CHAIRMAN COUFAL: No. Your counsel objected to it.

BY MR. CHERRY:

Q Who at your company has told you that he or she has been informed by the Canadian National Energy Board that there is this problem with regard to fuel supply?

A Mr. Beek and Mr. Van Rieman.

Q They have both told you that?

A Yes.

MR. CHERRY: Mr. Chairman, I will give notice now that I want to speak to wither Mr. Beek or Mr. Van Rieman, and I'll work out a schedule.

BY MR. CHERRY:

Q Who has told you from the company that he has been informed there are serious problems with oil supplies under your contracts and that he's been told that by someone who is

blt 9

1 a U. S. authority?

2 A Mr. Beek and Mr. Van Rieman have relayed that sort
3 of information to me. I cannot go beyond that.

4 Q Okay.

5 The last time that Consumers Power Company sent
6 out bids for oil, do you know how many bid responses they
7 received?

8 A I do not know the precise number. I was told --

9 Q If you don't know, then don't tell me what you
10 were told, Mr. Heins. If you don't know -- my question was
11 "Do you know," okay?

12 MR. ROSSO: Mr. Chairman, the whole series of
13 questions here is about what someone else told him, and now
14 the witness tries to answer this one by telling him what
15 someone else told him and now he objects.

16 Selective information like this, sir, is just not
17 the proper way to go about getting the truth.

18 CHAIRMAN COUFAL: There is a device called redirect,
19 Mr. Rosso, that you can use. If you feel the information
20 should be in, you can approach it on redirect.

21 BY MR. CHERRY:

22 Q Would you agree with me, based on your knowledge
23 from whatever source, if I told you that the last time
24 Consumers sought bids for oil they got fifteen responses
25 from suppliers willing to supply oil?

bit10

A I suspect the number is reasonable. That's my understanding.

Q And you regard a market where a bidder sends out bids and receives fifteen responses as a market that presents problems of shortage? Do you regard that as such a market, Mr. Heins?

A Yes.

Q You do.

What is your background in economics, if any, sir?

A Engineering economics I have studied and used.

Q Engineering. You mean the cost of physical equipment?

A Cost and economic calculations associated with that.

Q I'm just talking about the supply and demand of products in the marketplace. Do you have a background in that?

A I have a college course in principles of economics.

Q You told me also yesterday, or you told the Staff, that there were letters of intent with the cities of Lansing and Holland for the purchase of electricity from Midland, is that correct?

A I do not recall my answer being of that nature.

Q Are there letters of intent?

A I do not know of any letters of intent with

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Lansing and Holland.

Q Do you know of any letters of intent with anybody to purchase electricity from Midland?

A I know of a letter. Yesterday I was told it might not be considered a letter of intent.

Q I see.

Who told you that?

A I overheard you say that.

Q What letter were you referring to?

A There's a letter or memorandum that exists in which the parties agreed to work ahead at preparing --

MR. ROSSO: Pardon me?

BY MR. CHERRY:

Q Go ahead, Mr. Heins.

A There is a letter in which the parties agreed to work ahead towards preparing a contract which would afford a way of making an agreement, a meeting of the minds, concerning the sale of some generating capacity.

Q And who are those parties?

A Those parties were Consumers Power Company, Northern Michigan Electric Cooperative, and Wolverine Electric Cooperative.

Q Do you have a letter of intent with the City of Holland, Michigan, or the City of Lansing, Michigan?

A To my knowledge, no.

blt12

Q Do you have any obligation to sell Holland or Lansing electricity from the Midland generating facility if it ever gets constructed?

A I don't know.

Q You don't know whether you have this obligation. Do you have any firm contracts -- do you know what a firm contract is in the electric industry?

A I think I do.

Q What is your understanding?

A Well, a firm contract is one in which we undertake to provide electric service to a customer to the best of our ability.

Q That's your understanding of a firm contract?

A Something of that nature.

Q Something of that nature.

How is electricity bought and sold generally, Mr. Heins, among wholesale users?

A A wholesale user, which might be a municipality or city, they make a contract with us in which we agree to provide electric energy to them for their requirements based on certain prices and so on.

I believe the statement is made in there that we will do all that we can to provide the service, and indeed we do provide generating backup in an effort to maintain reliable service to that type of customer.

bit13

Q But if you're unable to do so, then there is an escape clause in these agreements that we're talking about?

A I think there's some sort of clause concerning events beyond our control.

Q If you have it, you'll sell it; if you don't have it, you won't sell it.

A If we have it -- and we make prudent plans to provide reserve capacity so that we will have it -- we will provide it to them.

Q But are you suggesting that if the Midland Plant doesn't go on line that, based on information you have, Consumers Power Company will be in violation of some understanding or agreement you have with cooperatives to supply electricity on a firm basis?

A It's my understanding we would not be in violation of a contract. There is no contract yet.

Q You would agree with me, Mr. Heins, that therefore it is not proper to include in your calculation of net generating capacity sales to persons with whom you had no contract? Would you agree with me?

A No.

Q Even though you don't have a contract, you think nonetheless it is proper to include in the calculation of your net generating capacity the amount of sales to such persons?

1t14

A The projected amount of sales, yes.

Q At what price?

MR. ROSSO: I have to object to that question.

Mr. Heins hasn't been testifying about the price at which electricity will be sold. He's been testifying about the need for electricity in the Consumers Power Company service area and the plans of the company to meet those needs.

CHAIRMAN COUFAL: Overruled.

BY MR. CHERRY:

Q What is the price that you project you will sell to these persons?

A If we have such an agreement with the cooperatives, it would not be a wholesale contract. It would be an interchange agreement with them.

The cost for capacity and energy in these interchange agreements changes periodically with system conditions and costs and so on, just as our rates change periodically through rate cases.

Q Have you arrived at any understanding with these persons as to the length of time for such a contract which is entered into?

A I do not recall that.

Q Have you arrived at an understanding with these persons as to any term or condition of this prospective arrangement?

t15

A It is our understanding that it would be for the life of the plant.

Q This is a firm understanding you have with these persons?

A It is my understanding of the understanding.

Q It's your understanding.

And this understanding that you have of these understandings, as you have described, is for firm energy or for capacity of Midland?

A The agreement that we would hope to conclude with the cooperatives would make them owners of an undivided interest in the generating plant.

Q And is that figure that is the subject of your understanding of these understandings that haven't been entered into the 272-megawatt figure that you used in your testimony?

MR. ROSSO: I object to the characterizations of the testimony.

CHAIRMAN COUFAL: Overruled.

THE WITNESS: The 272 megawatts that I mentioned is the amount of capacity that we have come to an understanding that will be included in the contract.

BY MR. CHERRY:

Q What if Midland is delayed? Are you obligated to sell 272 megawatts to these groups from some other source?

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A As I understand, we have no contractual obligation to do this; but as a system planner I further understand that, based upon the load projections and the capacity figures that they have given to us, that they would be in trouble generating-wise sometime during this period of the '80s and they might have to request purchase of capacity and energy from the system.

They said that they might not have time to build a plant of their own.

Q They might not have time and they might be in trouble.

So you're telling me now that, on the basis of analysis which you have made of figures given by them, you have done a load forecast and a reserve analysis of each of these cooperative systems and have concluded yourself that they really need this power and can't get it from any other source?

MR. ROSSO: Objection.

CHAIRMAN COUFAL: Overruled.

MR. ROSSO: Sir, may I explain my objection?

CHAIRMAN COUFAL: Please do.

MR. ROSSO: Mr. Heins never testified that he made a load forecast, and the question stated that he made the load forecast.

CHAIRMAN COUFAL: If that's what his answer is

blt17

going to be, Mr. Rosso, he's free to say so.

MR. CHERRY: I'm going to start asking for costs, Mr. Rosso.

BY MR. CHERRY:

Q Mr. Heins, go ahead.

A I did not make a load forecast of the cooperatives' future system conditions. They bring them to the meetings that we have, and they are prepared by themselves or by their consultants.

Q Do you know if they're correct or accurate, whatever they might show?

A We think they may be accurate.

Q Do you know that they are correct or accurate, whatever they might show?

A I cannot know any future situation.

Q You haven't looked at the figures, right?

A I have looked at the figures.

Q Well, have you formed an opinion as to whether or not they accurately portray?

A I have an opinion that these loads they're projecting could be accurate representations of the future needs of their systems.

Q Could be?

A Yes.

Q Just like your projections could be accurate

b1t18

predictions for Consumers' needs.

A I think that's fair.

Q And could not be.

A And could not be.

Q Now, Mr. Heins, do you understand Consumers' obligations that they are required to sell electricity to these cooperatives?

A No.

Q As a matter of fact, your company had a big anti-trust suit just recently and tried to prevent cooperatives from buying into Midland, isn't that right?

A I can recall antitrust proceedings, but it wasn't my understanding that that was the subject of those proceedings.

Q Is it your testimony that, based on what you know, these cooperatives have no alternative but to purchase power from the Midland facility in 1980 and beyond?

A I'm sorry. Would you repeat that?

Q Is it your understanding that these cooperatives we're talking about have no other alternative for the power they might need other than buying the power from the Midland nuclear facility?

A It's my understanding they have no practical alternative. They would have the possibility of installing gas turbine type generation, which has a relatively short lead time.

blt 19

The fears and concerns that they have concerning the possible shortcomings in fuel supply for those devices make them an unattractive and perhaps unfeasible alternative.

Q My question was, do you know whether they had any alternative. I take it the answer to my question is yes, they have other alternatives.

A They have that qualified alternative.

Q Any other?

A Diesel-driven generators would also be short lead time type generation.

Q How about buying the power from someone else besides Consumers Power?

A That would be a possibility for them, too.

Q It would be a possibility.

Have you analysed all the other systems from which these cooperatives could purchase power and determined that no power is available for 1980 on for these cooperatives?

A No. We have --

Q Just a moment now.

MR. CHERRY: Mr. Chairman, he said no.

CHAIRMAN COUFAL: I know he said no, Mr. Cherry.

Do you need to qualify your answer, Mr. Heins?

THE WITNESS: I'd like to, Mr. Chairman.

MR. CHERRY: Qualify your no.

CHAIRMAN COUFAL: Go ahead.

Exhibit 20

THE WITNESS: I have not made a detailed analysis of all these other systems. We do rely on their projected reserve figures that are furnished to us by them and feel that in the future there is a dwindling of reserve, generation reserve, level in the entire ECAR area.

This is substantiated by filings made by ECAR with the FPC.

BY MR. CHERRY:

Q By what filing?

A Filings made by ECAR on behalf of ECAR companies with FPC.

Q Which particular filings?

A I think they're in response to Order No. 383.

Q Which response? I mean, that's a continuing docket. It's been going on about fifteen years. Which response?

A The last one, which was done in the spring of '76, is the one that I have reference to.

Q So your testimony is, if we look in the spring of 1976, we'll find information from these cooperatives that will tell us what, Mr. Heins?

A No. If we look at the ECAR filings that were made in the spring of '76 we will find during the period that we're discussing here that ECAR reserves do decline somewhat.

Q ECAR reserves decline somewhat.

blt 21

Q Have you made an analysis of all of the systems that make up ECAR's reserves?

A Again, I must say no.

Q Do you know whether that declining reserve is an accurate portrayal of what will occur based on the information that is available?

A I do not know that.

Q But you rely on it nevertheless?

A I do rely on it.

MR. CHERRY: Can I have this document marked as Midland Intervenor's Exhibit No. 13.

(The document referred to was marked Midland Intervenor's Exhibit No. 13 for identification.)

BY MR. CHERRY:

Q Does the name "Fermi" mean anything to you?

A Fermi is a nuclear plant that Detroit Edison is building.

Q Is that plant on line?

A No.

Q So it's a prospective nuclear power plant?

A Yes, it's under construction.

Q It hasn't got an operating license yet, has it?

A I don't know, Mr. Cherry.

blt 22

Q You don't know.

Mr. Heins, do you know whether the cooperatives with whom you've been talking have entered into a firm understanding with Fermi for purchase of electricity, either capacity or firm energy?

A No, I don't. I know that there have been discussions.

Q Excuse me. If you don't know, then that's all I want, okay?

MR. ROSSO: Mr. Chairman, I'm sorry, but the witness had not yet completed his answer. May he have an opportunity to do so?

MR. CHERRY: What's the sense of all this stuff going on the record? The man doesn't know. Why prolong it?

CHAIRMAN COUFAL: You may answer, Mr. Heins.

THE WITNESS: Thank you.

I know there have been discussions concerning the sale of an undivided interest in the Fermi Plant to the cooperatives. Closing with the REAs was scheduled on or about this time, and I have no knowledge as to whether that contract has been executed or not. It may have been executed since I left Jackson.

BY MR. CHERRY:

Q If that contract has been executed, then some of the cooperatives with whom you have been talking about to

bit 23

purchase electricity from Midland may no longer need that electricity, is that correct?

A Not according to the cooperatives.

Q They have told you they want to buy from both Midland and Fermi?

A Yes.

Q Who has told you that?

A Mr. Keene and Mr. Johnson. Mr. Johnson is with the Northern Michigan Electric Cooperative. Mr. Keene is with the Wolverine Electric Cooperative.

The plan is, that they have told us, is that they want to buy from Fermi and they would also like to buy from us. This would provide some backup to them when one of those plants was out of service. It would enable them to sell back to the parties that are selling them the undivided interest a portion of that capacity until it was needed by the cooperatives, and their load growth leads them to believe that they would need the total amount at some point in the future.

Q 272 megawatts?

A The amount on our Midland unit that we have been discussing is 272 megawatts.

Q Oh, they want to buy that plus whatever they can get from Fermi?

A That's what they have told us.

Q How much are they going to get from Fermi?

lt 24

A I believe the number is 220 megawatts.

Q So they want a total of a little over 492 megawatts?

A Right.

Q Okay.

Would you take a look at Exhibit 12 of your testimony? Are you with me?

A Yes.

Q What is the figure that's in parentheses on the line marked "Purchase," under the column marked "Cancel Midland"? Is it 432 in parentheses?

A Yes.

Q Can you tell me what that figure is composed of?

MR. ROSSO: Just for clarification of the record, sir, is that for the year 1981?

MR. CHERRY: That's the only time it appears -- no, it's under "Cancel Midland." I'd like to deal with reality.

MR. ROSSO: For the year 1981?

MR. CHERRY: Well, yes, that's correct.

(Pause.)

THE WITNESS: That number 432 is comprised of, as I recall, the sale of 318 megawatts of loading and pump storage to Commonwealth Edison, the sale of 60 megawatts of the Campbell 3 unit, which we are anticipating, the purchase

p. 25

of 20 megawatts from a generating plant in Luddington, Michigan, that we do not own, and a small hydro generating corporation called Wolverine Electric Corp.

BY MR. CHERRY:

Q The sale to Wolverine or the purchase by Wolverine?

A Wolverine Power Corp., I guess is the name, is a small hydro generating plant, and we buy from them, so that 20 is the sum of the purchase from this Wolverine Power Corp. and an industrial plant in Luddington which sells us capacity, also.

There is an additional 74-megawatt sale, anticipated sale, to municipals in Michigan.

Q From what source?

A From Midland.

Q But that's under the column that said "Cancel Midland." How could you sell electricity from Midland if you cancelled it?

A Our position in this was that the municipals, if Midland were cancelled, would be in such a situation that they would not have time to react, and that in order to ensure that we would have capacity and energy to sell to them in case that was the alternative they had to pursue we included their requirements in that year.

Q Do I understand that under "Cancel Midland" the

p. 24

74 megawatts is projected from the Midland Plant to be sold? Is that right?

A No, we're projecting it would be sold off the system to them. If they reached an agreement with us, it was for this amount, 74 megawatts; if the plant were delayed, that there would be a necessity to provide them with capacity from some source. It would be off the system. Certainly, if Midland isn't there, it wouldn't come from Midland.

Q You just told me the source of that 74 megawatts in the computation was Midland. Did you make a mistake when you said that?

MR. ROSSO: Objection. Argumentative.

CHAIRMAN COUFAL: Sustained. I don't believe that's what he told you.

MR. CHERRY: Could I have the question read back and the answer read back as to the 74 megawatts, the source of it? (Whereupon the Reporter read from the record as requested.)

BY MR. CHERRY:

Q Now, when I asked you what the source of the 74 megawatts was, you said Midland. The Reporter just read that back. What did you mean when you said Midland?

A I meant that the agreement which we contemplated with the municipals would be for their purchase of an undivided interest in Midland and that anticipated negotiations would go ahead on this, that we would at some point in the

olt27

future reach agreement and enter into a contract with them to provide them that undivided interest in Midland.

Q That's what you meant?

A If subsequent to that Midland were cancelled, we felt that we had an obligation to try to supply them from the system.

Q With an undivided interest in 74 megawatts of generating capacity?

A The sum of the amounts that they have been talking total 74 megawatts.

Q You told me that the 74 was an undivided interest in Midland, the capacity sale, not a firm energy sale, correct?

A Yes, the sale -- I believe that's right.

Q Okay.

If Midland is cancelled, you contemplate selling these cooperatives 74 megawatts of an undivided interest in some other facility?

A We have not -- we did have this interest in Campbell 3, and we would presumably sell them an interest in Campbell 3, also, if not Midland for some reason. They haven't told us what they would like.

Q What's the justification, then, for including the 74 when you say "Cancel Midland" if you had no discussions whatsoever about the sale of an undivided interest in any of your other facilities?

End 3

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A We have had discussions concerning the sale of an undivided interest in Campbell 3. We have proceeded in our discussions with the municipals on the assumption that Midland would be built and would be available. And we would hope to enter into a contract with them on that basis.

Q But if Midland is cancelled, would you affirmatively go out and try to sell an undivided interest in one of your other facilities to these cooperatives?

A We would not go out and try to sell. We would sit down with them and ask them what their problems were and how we might help them.

Q Then it may or may not arrive at the 74 megawatt figure; correct?

A Yes. As I stated before, it was my assumption to include there the 74 megawatts as a prudent measure in planning for the possibility of helping them if the Midland capacity was not available.

Q Now you said that they would need turnaround time. How much turnaround time do these cooperatives need, based on your expert judgment?

A I didn't use that term. I am not sure what you mean by --

Q You said that if Midland were cancelled, they wouldn't have enough time to turnaround -- I think that is what you said.

Exhibit 2

MR. ROSSO: The witness doesn't recall using the language. Perhaps we could have it defined and then we could get over this hump.

BY MR. CHERRY:

Q Did you tell me that one of the reasons you thought it prudent to include the 74 megawatts was because if Midland was cancelled, they wouldn't have time to react? Did you use those words?

A I believe react -- I said they may not have the time to react to provide the capacity to take care of their needs.

Q What time are you talking about? What period of time?

A If they were to build a substantial coal-fired steam electric generating plant, the construction period has to be in the order of 7 to 9 years for that now.

Q 7 to 9 years to build what?

A To build a coal-fired steam electric generating plant of the size, 160 megawatts or greater.

Q Are you serious?

A Yes.

Q Do you want to buy one for \$300 in St. Louis with a turnkey job, guaranteed 3 years, to operate?

MR. ROSSO: Objection.

CHAIRMAN COUFAL: Sustained.

barb3

BY MR. CHERRY:

Q What is the basis for your 7 and 9-year projection for construction of a 160 megawatt fossil-fuel plant?

A The engineering and construction department of our company has furnished us with construction lead times for units. 160 megawatt size is one that the city of Lansing built on their system as their most recent unit, that went in service about two and a half years ago. And it is of a size that they would be interested in.

Much smaller steam-fired coal -- coal-fired steam electric generating plants, in the order of 20,30 megawatts might be built in a short time. But I have no knowledge of the sizes.

Q You really don't have any specific knowledge about schedules at all; do you?

MR. ROSSO: Objection.

CHAIRMAN COUFAL: Overruled.

THE WITNESS: Only what I am told, Mr. Cherry.

BY MR. CHERRY:

Q By the way, in the computation of the 74 megawatts was anything to do with the Fermi plant involved in that computation?

A I can't recall the municipal representatives mentioning Fermi.

Q Why the difference, then, in the purchase category

barb4

in the Exhibit 12 of your testimony, between as scheduled column as scheduled column in 1981 and the cancel Midland column in 1981?

A In the as scheduled column, we had the amount of capacity that we proposed to sell to the cooperatives included in that 472.

Q You just told me that is the amount you got in the 432, as well.

A No; the 432 included 74 megawatts which I felt might become an obligation for us to supply to the municipals. The 472 includes the amount proposed to be taken by the cooperatives if they should complete the contract with us and indeed buy an interest in the Midland plant. And that represents the number of megawatts they would be taking that year.

Q How many megawatts is that?

A That is 40 megawatts.

Q In addition to the 74?

A Yes.

Q For a total of what, Mr. Heins?

A 472.

Q No; how much out of the 472 is for the cooperatives?

A Oh; there would be a net sale to them of 40 megawatts. Their ownership would be for a larger amount; that they would sell back to us all except 40 megawatts, which they

parb 5

felt they needed at that time.

Q So that in 1981, if Midland is on-line and you make this agreement with them, you will have a net sale of 40 megawatts; correct?

A To the cooperatives; that is the figure we have used.

Q But in 1981, if Midland is cancelled and you don't give an undivided interest, you will have a net sale of 74 megawatts; is that correct?

MR. ROSSO: I object to the question as vague in that it doesn't specify to whom the 74 megawatts would be sold.

CHAIRMAN COUPAL: Overruled.

THE WITNESS: The 74 megawatts is a proposed sale to the municipals that we have been talking with.

BY MR. CHERRY:

Q Not to the coops?

A Correct.

Q I see.

Are there any letters of intent or understanding with respect to these municipal arrangements?

A Not to my knowledge.

Q I asked you, Mr. Heins, if the Fermi plant had anything to do with the calculation of the 74 megawatts in the cancel Midland 1981 case that was involved in your

arb6

testimony.

I now show you Exhibit 13 of Midland Intervenors and ask if you have ever seen that before?

A Yes, I have seen this before.

Q Would you describe it?

MR. ROSSO: Excuse me. I want to be sure that I have the right Exhibit 13.

MR. CHERRY: The witness has just been asked to describe it.

MR. ROSSO: I want to be sure I am looking at the right document.

BY MR. CHERRY:

Q Describe the document, Mr. Heins. Describe Exhibit 13.

A Exhibit -- the exhibit that I have marked Midland Intervenors Exhibit 13, is a sheet headed, Consumers-Edison, Loads and Capabilities. Below that, (as of September 1976).

Q You have seen that before?

A Yes.

Q Where does it come from?

A This is prepared by my company, by those working under my supervision and direction.

Q Do you understand the exhibit?

A Yes, I do, Mr. Cherry.

Q Can you define it for me?

barb7

If I ask you some questions about it, I can get some answers? Is that right?

A I think so.

Q Okay.

Look in the lower right-hand corner of Exhibit 13. It mentions the Fermi plant.

A The lower right-hand corner, in the year 1985 under the heading of remarks; summer capacity, winter capacity; there is a mention of Fermi.

Q Now it is mentioned in other years as well, isn't it?

A Yes, it is.

Q Which years?

A It is mentioned in that same column reading up, it is mentioned in 1984, 1983, 1982, 1981, 1980.

Q Now using this document, does it refresh your recollection as to whether or not the Fermi capacity had anything to do with the calculation of the 74 megawatts under your cancel Midland column in Exhibit 11, to your testimony, in the year 1981?

A There is material on this document which was used in that -- in those thinkings and calculations associated with that, such as their statements on there regarding our anticipated load, our anticipated --

Q The Fermi information; the Fermi information,

barb8

MR. ROSSO: May the witness please complete his answer.

CHAIRMAN COUFAL: Had you completed your answer, Mr. Heins, with regard to the question you were asked?

THE WITNESS: Yes; I think so. Other information has been used.

BY MR. CHERRY:

Q That wasn't my question, Mr. Heins. My question was:

First of all, was the Fermi plant capacity figure at all used in connection with the 74 megawatts, out of that figure on Exhibit 11 of your testimony. You said you didn't know.

I then handed you this document and asked you if it had any information about Fermi on it. You said yes.

My question is now:

Does the information on Exhibit 13 with respect to the Fermi plant refresh your recollection so that you can now tell me whether Fermi capacity had anything to do with the calculation of the 74 megawatts in the cancel Midland column that you described earlier from your Exhibit 11?

The 74 megawatts is a proposed sale to the municipalities. There has been deleted in cancel Midland column, as I said, the 40 megawatts which was anticipated as a sale to the cooperatives in that year.

barb9

The 40 megawatts that we had proposed to sell to the cooperatives in that year, we made the assumption that they would buy -- take additional capacity from their Fermi purchase of Detroit Edison and not -- and then have the requirement that the municipals might have.

The cooperatives, if they purchased the 220 megawatts from Fermi during this period when Fermi can produce more than they require, would have enough additional capacity so that the sell back to Detroit Edison would be reduced and the cooperatives would take that 40 megawatts that we had anticipated coming from our system, from Detroit Edison.

Q Now the 74 megawatts could be met by Fermi surplus in each of the years that are shown on your Exhibit 11; is that correct?

A In the year 1981, the column headed March, this states a Fermi surplus of 150 megawatts, summer-winter. If the municipals did go to Detroit Edison and work out an arrangement to purchase capacity from them, it would appear that there is sufficient capacity for them to cover their needs from the Detroit Edison Fermi unit.

Q Including the 74 megawatts that you put in your --

A Yes; that is what I am speaking of.

Q Then we don't have to be too concerned about those municipals or cooperatives if all we are concerned with is taken care of because you have now agreed that can be taken

barbl0

care of from some other plant; right?

A. I have to be concerned because it is my understanding that they haven't entered into negotiations with Detroit Edison for purchase of Fermi.

Q. But they haven't decided to contract with you? Right?

A. Who, the municipals?

Q. Do you know of anyone that has made a deal with Fermi?

A. The cooperatives have been negotiating and it was my understanding there is a contract that is going to be executed just about this time.

The municipals, I have no knowledge of any deal they have made with Fermi.

Q. But there is sufficient capacity during the years that you are concerned about in Exhibit 11, from the Fermi plant to supply the municipals and the cooperatives to the extent of your knowledge of their needs? Correct?

A. Yes.

Q. So if that is the only reason to build Midland, we don't have to build Midland; right?

A. If -- I don't see how I can answer that, Mr. Cherry. I don't know what the municipals are willing to enter into with Detroit Edison. We have an obligation to supply our customers, and as to the load of the municipals,

barb11

if they have something to be served, it is part of our obligation. We need Midland to serve our system.

Q It is part of what obligation of Consumers Power, Mr. Heins?

A Consumers Power Company has an obligation to serve those who require electric energy without discrimination.

Q You are saying that you are obligated to supply the cooperatives and municipalities?

A I really don't know.

Q So when you said it was part of your obligation, you didn't really mean that you had a -- some sort of an obligation imposed to sell to the cooperatives and municipalities?

MR. ROSSO: Mr. Chairman, I am going to object to this line of questioning. It calls for legal conclusions as to what the legal obligations of the company might be.

MR. CHERRY: He used the term.

CHAIRMAN COUFAL: He did use the term obligation. And you may tell us, Mr. Heins, what you meant by usage of that word.

THE WITNESS: I don't know what the legal obligations are. I do know that myself and my colleagues at Consumers Power Company feel a strong obligation to serve the customers and customer needs.

barbl2

BY MR. CHERRY:

Q You mean a moral obligation?

A Yes.

Q Does that moral obligation extend to inverted rate structures?

MR. ROSSO: Objection. This witness hasn't testified with regard to inverted rate structures.

BY MR. CHERRY:

Q I just want to know if the character of the moral obligation that you feel to serve the customers includes also a moral obligation to impose inverted rate structures throughout the -- Michigan.

I just want to know if the moral obligation includes that.

CHAIRMAN COUFAL: I sustain the objection.

BY MR. CHERRY:

Q Did you know that Mr. Youngdahl said that he didn't want to have any obligation for social or welfare purposes?

MR. ROSSO: Objection.

CHAIRMAN COUFAL: Sustained.

BY MR. CHERRY:

Q Is your obligation to sell electricity to Commonwealth Edison any different from your obligation to sell electricity to the cooperatives?

barb13

A We have a contract with Commonwealth Edison --

Q So it is different?

A -- for a portion of the output of Luddington pump storage station.

Q How much?

A Our share is 318 megawatts at this time.

Q What is Commonwealth Edison's share?

A Commonwealth Edison is buying 318 megawatts from Consumers and some amount very close to that from Detroit Edison. Commonwealth Edison's share would be the sum of those two.

Q You mean you have a contract which obligates you to sell on a yearly basis 318 plus this other figure?

MR. ROSSO: The question is vague. Objection.

CHAIRMAN COUFAL: No; I think it is a good question.

Go ahead.

BY MR. CHERRY:

Q Do you have a contract with Commonwealth Edison obligating you to sell on a yearly basis 318 megawatts plus this other amount that you would purchase as their share from the Luddington Pump Storage Station?

MR. ROSSO: May I restate my objection. It is vague on the basis that the "you" is unspecified. Who is "you?"

MR. CHERRY: Consumers Power Company.

barb14

THE WITNESS: The other amount that you have reference to, I am not sure I understand by that.

Q From Detroit Edison. You referred to the shares by the different partners and you said Commonwealth Edison's share was 318 plus this other amount; didn't you?

Didn't you tell me that, Mr. Heins?

A Commonwealth Edison is buying 318 megawatts from Consumers Power Company and some amount, just about the same value, from Detroit Edison company's portion of the Luddington Pump Storage plant.

The 318 megawatts --

Q You mean they are buying 318, also, from --

A It is just about that same number.

Q So it is 636 megawatts?

A It is very close to that.

Q What is the capacity of the Luddington Pump Storage Station?

A 1872 megawatts.

Q Now my question is:

Does Consumers Power Company have a contract with Commonwealth Edison obligating Consumers Power to sell on a yearly basis 318 megawatts to Commonwealth Edison from the Luddington Pump Storage Station.

A There is a contract in existence between Consumers and Commonwealth Edison which has to do with the sale of 318

barb15

megawatts. The capacity of Luddington -- I am not sure I know enough about that contract to answer your question.

MR. ROSSO: I think, Mr. Chairman, we are getting into a question of contractual interpretation and legal matters here which this witness is not qualified to answer beyond what he has already answered.

BY MR. CHERRY:

Q Mr. Heins, would it be your recollection, based on your earlier testimony, that this contract with Commonwealth Edison would have the same kind of clause in it like you said they all do, to the best of Consumers Power's ability? Does it have a clause like that?

MR. ROSSO: Again, Mr. Chairman, I object on the basis that we are getting into having this witness interpret that contract.

CHAIRMAN COUFAL: He can answer if he knows.

THE WITNESS: I don't know.

BY MR. CHERRY:

Q You don't know.

Is it possible, then, Mr. Heins, that you, that is Consumers, might not have to sell 318 megawatts to Commonwealth Edison if you needed it on your own system?

MR. ROSSO: Objection again. That calls for an interpretation of the contract.

CHAIRMAN COUFAL: Overruled.

barb16

THE WITNESS: I don't know the details of that contract.

BY MR. CHERRY:

Q Well, have you analyzed that in connection with your calculation of reserve to know whether the 318 megawatt sale to Commonwealth Edison is capable of being used on Consumers' system, if it is necessary to do so?

A I have included the 318 megawatts amount sale to Commonwealth Edison in my calculation of reserves on the basis that I have been told this is a contractual obligation of Consumers Power Company.

Furthermore, if Commonwealth Edison is depending upon that for their electric supply, I can fully understand that if it is not available, their customers might suffer.

Q And have you analyzed --

A Consequently, I would include that as a prudent measure in my planning for the future.

MR. CHERRY: I move to strike the answer as not responsive to my question. The question was whether or not he had made inquiry as to whether or not they didn't have to sell to Commonwealth Edison if they needed it on their own system.

CHAIRMAN COUFAL: Overruled.

BY MR. CHERRY:

Q Now I will ask the question again:

barb17

Did you make an inquiry as to whether or not the 318 megawatt sale to Commonwealth Edison had to be made, even if Consumers needed that amount for their own system.

MR. ROSSO: Objection. The question has been asked and answered.

CHAIRMAN COUFAL: Overruled.

THE WITNESS: I do not know the contents of that contract.

MR. CHERRY: Mr. Rosso, would you produce that contract.

(Pause.)

While you are considering that, I will ask Mr. Heins another question.

BY MR. CHERRY:

Q The 60 megawatts of Campbell 3 --

MR. ROSSO: Excuse me, Mr. Cherry. I can't --

BY MR. CHERRY

Q YOU said there was a 60-megawatt sale of Campbell 3, from Campbell 3.

A A proposed sale from Campbell 3.

Q To whom?

A As I recall at the moment, I believe that amount was -- has been discussed with the municipals. There was some discussion regarding sale from Campbell with the cooperatives. We discussed the sale of Campbell 3, the Karn unit,

rb18

of an interest in these and the Midland plant.

The six -- I can't recall at the moment.

Q Now you included the 60 megawatts into your calculations as sale in the early 80s. Is that correct?

A Yes.

Q But you can't tell me to whom that sale is going to be made?

A It is my recollection that it is to the municipals.

Q Has the sale been made and subject to a contract being entered into?

A No.

Q Oh, it hasn't been.

So you are not obligated to make that sale at this point by any understanding?

A We have not come to any agreement regarding that with the municipals.

Q They may not buy it.

A They may not.

MR. CHERRY: Can we take a short break, Mr. Chairman? We have been going two hours.

CHAIRMAN COUFAL: You are right.

Who has got a suggestion about what kind of a lunch hour you need or want to take?

MR. CHERRY: A half hour is good enough for me.

CHAIRMAN COUFAL: I am not suggesting we are going

barbl9

to take it now, but let's take 10 minutes.

MR. RENFROW: Before we break, a minor item that Mr. Cherry wants. He asked for the heat rates yesterday from Midland. I am going to pass those out to the parties. I have called and gotten them and had them typed and will pass them out during the break.

CHAIRMAN COUFAL: What are they?

MR. RENFROW: Heat rates for the Midland unit.
(Counsel distributing documents.)

CHAIRMAN COUFAL: Let's break for 10 minutes.

(Recess.)

End #4
fois.

CHAIRMAN CUFAL: Back on the record.

Mr. Cherry?

MR. CHERRY: Would you please mark these three letters as Exhibits 14, 15 and 16.

I have just asked the reporter to mark Midland Intervenor's Exhibit 14, a letter from John Keene to Mr. Stafford, Consumer's Power Company, dated October 26, 1976.

(Whereupon, a letter from John Keene to Mr. Stafford, Consumers Power Co., 10/26/76 was marked Midland Intervenor's Exhibit 14 for identification.)

MR. CHERRY: As Exhibit 15, Mr. Brush of the Lansing Board of Water and Light, to Mr. Kaiser of Consumers Power Company dated October 14, 1976.

(Whereupon, the letter from Mr. Brush, Lansing Bd. of Water & Light, to Mr. Kaiser, Consumers Power Co., 10/14/76, was marked Midland Intervenor's Exhibit 15 for identification.)

MR. CHERRY: And as Exhibit 16, a letter from Mr. Whitney of the Board of Public Works in Holland, Michigan, to Mr. Kaiser of Consumers Power Company.

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(Whereupon, a letter from Mr. Whitney, Board of Public Works, Holland, Michigan, to Mr. Kaiser of Consumers Power, was marked Midland Intervenor's Exhibit 16 for identification.)

MR. CHERRY: I have distributed copies of these letters to the other parties. I have two sets for the Board, and I will get another one.

(Handing to the Board.)

No. 14 is October 26, 1976 on Wolverine Electric stationary; 15 is on the Board of Water and Light stationary of Lansing, and 16 is on the Board of Public Works and Power.

CHAIRMAN COUFAL: Thank you.

BY MR. CHERRY:

Q Mr. Heins, I show you Exhibit 14, and ask if you have ever seen Exhibit 14 before, Midland Intervenor's Exhibit 14.

(Handing document to witness)

A Yes, I have seen it.

Q Does that letter correctly characterize the status of negotiations between Consumers Power and Wolverine Electric Company as of the date of the letter and today, Mr. Heins?

A Yes, in my view it does characterize today's situation.

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Q How about Exhibit 15. Have you ever seen Exhibit 15?
(Handing document to witness.)

A Yes, I have seen this before.

Q And does Exhibit 15 characterize the present situation with respect to the Board of Water and Light prospective situation as that letter sets forth?

A Yes.

Q Have you ever seen Exhibit 16 before?
(Handing document to witness.)

A Yes.

Q And if I ask you the same questions as I have on Exhibit 15 with respect to Exhibit 16, your answer would be --

A Yes.

Q -- the same?

A Yes.

Q Are these the letters you were referring to in your testimony when you said there were certain letters -- in your oral testimony you said there were certain letters of intent or understanding with these cooperatives.

Are these the letters?

A No.

Q There are others?

A There is a letter between Consumers and the cooperatives which states something to the effect that we will establish -- we will work on the preparation of a contract

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in hopes of coming to an agreement of the kinds of terms and conditions. That was a separate letter.

Q But the same kind of situation. No agreement has been made yet, although they are interested in making one?

A That we have met on a fairly common ground and thought we could go ahead with all the work in preparing a contract.

Q But the situation is the same as is described in Midland Intervenor's Exhibits 14, 15 and 16 with these cooperatives; that is, there is no contract, just an expression of interest.

Is that right?

A We are much closer with the cooperatives.

Q Is there a contract?

A No.

Q Now isn't it true that Exhibit 14 with Wolverine Electric, to your understanding, indicates an alternate source of supply for energy if they cannot arrange a deal with Consumers and Midland?

A It says they will have to obtain a capacity in energy as above-mentioned, from some other source.

Q And you have already told me that there are other sources of energy available?

A Yes.

Q And isn't it also true that the Board of Power and

mm5

Water and Light has other sources other than the purchase of power from either Midland or Consumers Power Company, from some other unit?

(Handing document to witness)

A It says they will be faced with the decision of either a rescheduling installation of the 60-megawatt oil-fired combustion turbine from 1984 to 1981 or purchase oil power from Consumers Power Company.

Q So they have an alternative?

A Yes.

Q And they have an alternative that isn't even stated in there. They can purchase power from someone other than Consumers if they didn't put in that 60-megawatt oil-fired combustion turbine, correct?

A They would have that alternative, and it isn't mentioned.

Q But you know that they have it?

A Oh, yes.

Q And Exhibit 16 also indicates that if no contract can be done with Midland, the City of Holland has an alternative?

A It says they would attempt to purchase the power needed to meet their system demand.

Q And you just told us that they could do that elsewhere?

A It says the first place they would look would be

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to Consumers Power Company. Then they would look elsewhere.

Q But you told us that they can look elsewhere?

A Surely.

Q Now weren't these letters written because someone in Consumers Power Company said they would like some letters written just to help us out in case there is some Board foolish enough to believe that these are supported?

A No.

Q They weren't?

MR. RENFROW: Mr. Chairman, I have a document -- perhaps we can cut this short -- I only have one copy of it. It is the Consumers Power Company Participation in Ownership and Operation of Campbell 3 and Midland 1 and 2 by Northern Michigan and Wolverine.

To the best of my knowledge, none of the other parties has got this document. I would be glad to offer it, Mr. Cherry. I think perhaps we can cut through some of this and I will make copies of you want it.

MR. CHERRY: Is that an executed document?

MR. RENFROW: No, it is not. We don't have any executed copies.

MR. CHERRY: I'm not interested.

Has it been executed?

MR. RENFROW: There is no contract executed.

I will let you look at this.

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MR. CHERRY: As far as I am concerned, I will take it gladly, but I won't ask questions on it if it is not in effect.

BY MR. CHERRY:

Q Now, Mr. Heins, the 272 megawatts that we have been talking about, that is assumed in all of your exhibits, is it not? Not just Exhibit 11 and 12?

In other words, the inputs on the 272 carries through all of the exhibits? Production costs, everything?

MR. ROSSO: I'm sorry. May I have the question read back?

MR. CHERRY: I think the answer is yes, is that what you said?

MR. ROSSO: I would like to keep track.

(Whereupon, the reporter read from the record as requested.)

BY MR. CHERRY:

Q Will you answer that, Mr. Heins?

A The 272 megawatt sale from Midland was utilized in the appropriate places in these exhibits.

Q In all of them?

A IN all of them. In some locations, as we discussed a while ago, such as the Midland, not every case, we didn't have to use all of that sale in the calculations.

Q But you used some of them?

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A We used some portion of it which we felt couldn't be replaced by the other entities in the time period available to them.

Q But you also admitted that they could buy it from Detroit Edison surplus based on Exhibit 13, right?

A The cooperatives may buy all of their requirements from a firm either sufficient, in their purchase a firm may take care of it through this period.

Q So that when you assumed that the 74 megawatts was necessary to handle these peaks, and you didn't have other alternatives, you now admitted that that was an incorrect assumption?

MR. ROSSO: Objection.

That is not what the witness testified. It is a mischaracterization of the testimony.

CHAIRMAN COUFAL: He can answer the question.

THE WITNESS: I disagree with your statement.

BY MR. CHERRY:

Q To whom was the 74 megawatts to be sold?

MR. ROSSO: May the witness finish his answer, sir?

MR. CHERRY: He said he disagreed.

My next question --

CHAIRMAN COUFAL: Just a minute, Mr. Cherry.

You may tell us what you were going to say.

THE WITNESS: I feel that my assumptions were

mm9

good, that they represented realistic possibilities for the future and planning for the electric system requires their consideration.

BY MR. CHERRY:

Q Are you done?

A Yes.

Q Are you sure?

A With that answer.

Q To whom was the 74 megawatts postulated to be sold, if Midland cancelled?

A The 74 megawatts, I believe, was postulated to be sold to the municipals.

Q Okay.

Isn't there an alternative to the municipals buying the 74 megawatts from you?

A There are several possible alternatives.

The feasibility of each is different.

Q We just went through Exhibits 14, 15 and 16, and you told me that they all had alternatives, either to build or to purchase, correct?

A Yes.

Q Now did you assume in the Midland cancelled case, that the 74 megawatts had to be sold to the municipalities because there were no other alternatives?

A It was our assumption that the 74 megawatts was

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sold to them to cover their needs.

Q And no other alternative source available to them -- did you make that --

A I did not make that assumption.

Q You did not. I see.

A I made the assumption that within the time available to them, this might be their most prudent alternative.

Q Might?

A Yes.

Q Might not be?

A Yes.

Q Now the 60 megawatts in Campbell, did that carry through all of your Exhibits as well, where applicable?

A Yes.

Q And the Palisades assumptions you made is carried through to all of your exhibits, cost production runs, et cetera?

A As applicable.

Q As applicable.

A Taking Palisades out of service for reconditioning, yes.

In the Midland not added case, it wasn't taken out.

Q Why wouldn't you use some earlier date than 1980 to take Palisades out of service and fix it up?

mm11

A The date that we are proposing to use was '81 and '82, and represents the year in which the first unit at Midland to be operating, becomes available and on the system. The years '81, '82 when Midland is scheduled to come on line, provides us with the best situation from an operating reserve standpoint, to permit taking Palisades out of service for reconditioning.

Q Could you take Palisades out of service and fix it up if it needs it before 1980?

A If we have a choice in the matter, it would be far more difficult to compensate for it prior to 1980, assuming the Midland unit becomes available in 1981.

The removal of Palisades for reconditioning is tied to the time in which Midland becomes available and commercially in operation.

Q Could you fix Midland before 1980 if you wanted to -- I mean Palisades?

Could you, if Consumers wanted to, could they schedule the fixing of Palisades prior to 1980?

A If it were necessary, we would attempt to repair, recondition the unit and bring it back in service as soon as possible, if it became inoperational. My assumption --

Q My question was, do you know of any reason which would prevent Consumers Power from shutting down Palisades prior to 1981 and having it completely fixed to the extent

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it is necessary and back on line at full megawatt capacity by 1980?

Do you know of any reason that makes that impossible?

MR. ROSSO: I object.

I ask that that question be stricken. He can ask it again after the witness has finished answering the previous question. The witness was cut off in midstream again.

CHAIRMAN COUFAL: Overruled.

BY MR. CHERRY:

Q Mr. Heins, answer it.

A If it were our choice.

Q No, I didn't ask you for your choice.

I asked you if you know of any barrier that would make it impossible for you, that is Consumers Power Company, to make all necessary repairs to Midland within a timeframe so that by 1980 it would be operating at its full megawatt rating capacity?

A If some of that took place to force the unit down, we would attempt to repair it, recondition it, get it back into service as soon as possible. If --

Q Okay.

Now that was not my question.

My question was, do you know of any barrier that would make it impossible for you voluntarily, tomorrow morning or at some time between now and 1980, to shut down

mm13

Palisades, fix it up to the extent it is necessary, and have it on line in its full megawatt capacity rating by 1980?

Do you know of anything that would make that impossible if you wanted to do it voluntarily?

MR. ROSSO: Objection again, Mr. Chairman. Again the witness was cut off in midstream. His last word was "if".

CHAIRMAN COUFAL: Overruled.

THE WITNESS: As I cannot foretell the future, I do not know of any barriers that would absolutely preclude this.

I do know that it would be an extremely difficult operating situation if a unit as large as Palisades were lost from service for an extended period of time.

Whether the purchased power to replace that and the other reserves that we have would be adequate to provide service to our customers, is something I simply cannot know.

BY MR. CHERRY:

Q Did you make that inquiry, Mr. Heins?

A Yes, we did investigate the reserve situation in Kern and with neighboring systems.

Q Now you just told me that whether or not you would have sufficient capacity to meet the needs of your customers and you took down Palisades is something you don't know because you don't foretell the future. Isn't that what you

mm14

told me?

A Something of that nature.

Q Well, if you don't know, my next question was, did you make an inquiry as to whether or not it would be possible to gather information upon which you could make a judgment that you would know?

A Yes.

Q And after having made that inquiry you concluded that you couldn't make any judgment?

A We concluded that the reserve situation in the years prior to the availability of the first on-line Midland unit was such that it would be extremely difficult for us to plan to take Palisades down for reconditioning.

Q But not impossible?

A Not impossible.

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in 5

Q Have you ever asked anybody with whom you are interconnected to sell you power between '78 and '80 in order to shut down Palisades during those two years?

A We did not request such information and say it was for the purpose of shutting down Midland -- Palisades.

We have inquired amongst our neighbors as to their reserve situations for this period.

Q But you haven't gone to utilities and said, "Look, we have a problem. We're losing megawatt rating each year at Palisades, and we'd like to shut it down and fix it up. Will you help us out?" You haven't made that inquiry?

A We have not made that inquiry, nor do we yet have Palisades losing capacity each year.

Q You told me it's being derated 5 percent per year in your assumption.

A No, I said that was my assumption for the sake of planning, which is reflected in this testimony.

Q You mean to say that your assumption is not based on any historical fact about losing 5 percent power each year?

A My assumption is based on the fact that tubes have been plugged in the past. To this time the tube plugging has not cut into the rating of the Palisades unit.

Q Why did you select the 5 percent derating each year?

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A Further tube plugging would result in some derating of the unit.

Q Why did you select 5 percent?

A The number of tubes that have been plugged in the past seemed to indicate a percentage reduction somewhere in this area for the future if the tube plugging is necessary.

Q So that your assumption is based upon if the tube plugging is necessary, which you don't know for sure, correct?

A That is right.

Q It may result in a megawatt reduction of a number you're not certain of but you think it's 5 megawatts?

A Five percent.

Q Five percent. But you're not certain?

A That's correct.

Q And there has been no reduction historically for these generator tube problems upon which you could base that assumption?

A On our Palisades unit, the historic plugging has not resulted in any derating of the unit.

Q Incredible.

I show you Exhibit 12 -- I'm really glad you came, Mr. Hains. I now show you Exhibit 12 and ask if you can identify it.

MR. ROSSO: Mr. Chairman, there were a couple of offhand remarks made there. I don't know, are those going

blt 3

on the transcript?

MR. CHERRY: I'm glad Mr. Heins came, and I'll state my reasons.

One of the things we were very concerned about in this case was the question of need for power. We looked through very carefully all of our background information, and, quite frankly, we continued to be flabbergasted, because in our judgment we did not believe that the case would be put on so poorly. We're delighted Mr. Heins is here to support what we believe is a very poor case. That's why I said I was delighted that Mr. Heins was here.

I want to give you the fullest explanation of my comments as I can, Mr. Rosso.

MR. ROSSO: Can we move that all of that be stricken from the record, sir.

MR. CHERRY: I would oppose that. He asked a question. It's perfectly proper. And I answered it.

CHAIRMAN COUFAL: The only question he asked was whether the offhand remarks were going in the record.

MR. ROSSO: And I asked it of the Chairman.

CHAIRMAN COUFAL: And we will strike your response.

MR. CHERRY: Okay. Would the Reporter save it for my closing argument, though?

BY MR. CHERRY:

Q Can you identify Exhibit 12, Mr. Heins?

Et 4
MR. HOEFLING: Mr. Chairman, I think we have a problem with copies again.

MR. CHERRY: I was just given this this morning. You'll have to be patient. I don't carry a Xerox machine in my pocket.

These are work papers of Mr. Heins that Mr. Heins thought I had. Had Mr. Rosso provided copies, we would have had them. I don't have them now. I just want the witness to identify it, and I will provide copies for everybody later.

MR. ROSSO: We had no idea you were going to introduce some exhibits, and consequently we didn't have any reason to make copies of them.

MR. CHERRY: I'm sorry, Mr. Rosso --

CHAIRMAN COUFAL: Never mind, gentlemen. Let's get along with it.

THE WITNESS: This sheet marked Midland Intervenor's Group Exhibit 12 --

BY MR. CHERRY:

Q The exhibit includes all the sheets, Mr. Heins.

A Oh. The first sheet that I'm looking at -- there are five, marked Midland Intervenor's Exhibit 12 -- is a paper done by me this morning and calculates the main system efficiency factor for the years 1974 and 1975.

The main system efficiency factor for 1974 calculates to 91.6 percent. The main system efficiency factor

5
for 1975 calculates to 91.2 percent.

Q And for what purpose did you make that calculation?

A At your request.

Q Was that part of what was on Exhibit 10 that I asked you to fill in the numbers on?

A NO, that was not part of that exhibit. I have the recollection that you, or someone --

MR. HOEFLING: Excuse me. The Staff asked you for the efficiency data for '74 and '75 and also the efficiency data used in your forecast.

MR. CHERRY: So that is responsive to the Staff's question.

THE WITNESS: I guess that's right.

MR. CHERRY: I can understand. You know, it's been ¹² hours since the question.

BY MR. CHERRY:

Q Mr. Heins, what about the second page of your Exhibit 12? Was that something prepared for me?

A The second page in the stack was prepared in an attempt to be responsive to your request of yesterday.

Q Can you explain to me what you understood was my request in connection with the second page of Group Exhibit 12 and what you did?

A The second page --

Q Mr. Heins, I don't want to confuse you. I will

Exhibit 6

put numbers on those and say 1, 2, 3, 4, 5, and then you won't have any problem.

This is number 1 (marking). That means page number.

This is number 2 (marking). That means page 2.

This is number 3 (marking). That means page 3.

This is number 4 (marking). That means page 4.

This is number 5 (marking). And that means page 5 of Exhibit 12, okay?

I want to go through each of the pages so you won't have any difficulty. That's why I've numbered them.

What is contained on page 2 of Exhibit 12?

A Page 2 is a calculational sheet prepared by me, which is parallel to my Exhibit 11; and the heading on it says "Effect of Midland Delay on Reserves (Summer)." It assumes Palisades in service at 686 megawatts with no Midland sales to "muni's" or co-ops.

Q What was the assumption as to Palisades on page 2 of Exhibit 12?

A Palisades in service at 686 megawatts.

Q And 686 megawatts represents what? The current rating of Palisades?

A Yes.

Q Okay.

A And the assumption of no Midland sales to "muni's"

or co-ops.

Q And how much -- what megawatts did you take out for the "muni's" and the co-ops?

A For the year 1981, in the column headed "As Scheduled," I reduced that purchase entry from 472 to 358, which I make to be 114 megawatts.

Q In other words, in that 472 all that was included as a sale to the cooperatives or municipalities was 114 megawatts?

A Yes, that's right, in that entry for 981.

Q And there were different reductions at different points?

A Yes. In that year, 1981, Unit 2 comes on line. A portion of that is sold and taken by these other entities.

In 1982, when the second unit comes on line, there is an additional -- some amount of this that these entities take.

Q Go ahead.

A In this sheet, which assumes Palisades in service and no sale of Midland to "muni's" and co-ops so that this changing factor you mentioned is not included, I have listed, just as on my Exhibit 11, the capacity of the purchase, net capacity resulting, load reserve and percent reserve year by year for 1981 through 1984 under the same headings as listed on Exhibit 11, the "As Scheduled" column, column

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"Delay Midland to 12-81 and 82 or 6-82 and 83," and the column headed "Midland Not Added."

Q How about page 3 of Exhibit 5?

A Page 3 is headed --

Q Excuse me. By the way, under the assumptions that are contained on page 2 of Exhibit 12, you were to have sufficient reserve in the event Midland was delayed based upon your statement that you wanted that 20 percent reserve, would you not?

A Yes.

Q Okay.

Page 3 of Exhibit 5.

A Page 3 of Exhibit 5 is headed "C. P. Company, Effect of Midland Delay on Reserves (No Midland Sales to Co-ops or Muni's)," and again it represents the years 1981, '82, '83, '84, and arranged in three columns -- one headed "As Scheduled," one headed "Delay Midland to 12-81 and 82 or 6-82 and 83," and the last headed "Midland Not Added." In the heading was the word "Summer."

Q This is no Midland sale to co-ops and "muni's," but including the Palisades reduction factor, is that correct?

A Yes.

Q And I take it Exhibit 4, or page 4 of Exhibit 12, is the converse, that is, you have recomputed Exhibit

11 by leaving in the municipal and co-op sales, but assuming no further reduction in Palisades, is that correct?

A Yes. Palisades is in service throughout 6-86.

In 1981, "As Scheduled, Midland in Service," this shows under this assumption 35 percent reserve.

Q What if Midland is delayed a year? What does page 4 show on Exhibit 12?

A The two delays here end up with the same results. This shows if Midland is delayed up to one year on in service date, the reserves are 21.1 percent in 1981.

Q Is that pretty good?

A It meets our reserve criteria.

Q Is it pretty good, 21.2?

A Yes, adequate.

Q Well, it's more than adequate, isn't it? Twenty is what you're satisfied with.

A Twenty is our nominal target, right, and this exceeds that.

Q Nominal target. In other words, you would like to have even more than 20, Mr. Heins?

A We have calculated 20 percent to be adequate for planning purposes. The reliability of the electric system will increase as the reserves go above 20.

Q If you were in charge of the whole thing -- picture that, Mr. Heins -- You were making all of the decisions alone.

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If you could spend all of the money you wanted, what reserve would you take?

A I would go for 20 percent. That would be my target.

Q You wouldn't want it any higher?

A Under the present conditions as I know them, I believe 20 percent to be adequate. And, as I said yesterday, when we add the unit reserves will go above 20 percent for a time.

Q Do you think 19 percent would be adequate?

A Our planning target is 20 percent.

Q I didn't ask you that. I asked you if you thought 19 percent would be adequate.

A No, I don't think it would be adequate.

Q How about 17 percent?

A No, I don't think it would be adequate.

Q Is there any error band in your 20 percent, or does it have to be exactly 20?

A The 20 percent is a planning target. We will allow the figure to fall below 20 percent in the year before we add a unit if it's not very far below 20 percent.

Q How far below would you let it fall?

A 18 or 19 percent would be reasonable to take for one year. Then the next year, when we add the unit, the reserves would go up to some level in excess of 20 percent.

lt 11

It's impossible to add just precisely the amount of generating capacity that you need at exactly the precise time you need it.

Q You said on page 9 of your testimony that the reserves should be approximately 20 percent of the projected load. Do you want to change that to mean the reserves should be exactly 20 percent of the projected load?

MR. ROSSO: Objection. Argumentative.

CHAIRMAN COUFAL: Overruled.

THE WITNESS: No, I don't want to alter that. I think approximately 20 percent is the correct figure to use.

BY MR. CHERRY:

Q What's the give or take, then, on either side of that approximate figure?

MR. ROSSO: Objection. He's been asked that and has answered it several times.

CHAIRMAN COUFAL: Overruled.

THE WITNESS: It would depend on conditions. The possible availability of purchased capacity and energy, anticipated availability to purchase capacity and energy in the year in which we would fall below 20 percent, would depend upon what we think is going to happen to unit availability based on any plan that might exist concerning changes in maintenance.

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BY MR. CHERRY:

Q But I'm talking about for your testimony. Did you have a low figure below 20 and a figure higher than 20 and then select an approximate 20?

MR. ROSSO: Objection. The question has been asked and answered, sir.

CHAIRMAN COUFAL: Overruled.

THE WITNESS: I did not have in mind a band within which would be acceptable. This 20 percent depends upon conditions anticipated at the time that we're expecting.

BY MR. CHERRY:

Q It might be more than you need?

A It could be. It could be less.

Q Do you believe it will be less than you need?

A Monday of this week the Midland Coordinated Electric Systems had a reserve of 37 percent and had to go into voltage reduction in order to maintain service to customers.

Q They've got monkeys running it. I just want to know, do you believe the basis of your testimony that 20 percent isn't enough?

MR. ROSSO: Move to strike the gratuitous comment preceding the question.

CHAIRMAN COUFAL: Overruled.

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BY MR. CHERRY:

Q Mr. Heins?

A It is my belief that 20 percent represents a target planning figure that is suitable to provide the type of reserves -- the type of reliability that we would like to provide our customers.

Under the conditions existing on our system and in the Michigan Coordinated Electric Systems, 20 percent permits us to reach the one day in ten years loss of load probability.

Q The reason why the ECAR group suffered this problem with 35 percent reserve, was that an outage? Unscheduled outage?

A The Michigan Coordinated Electric System had a reserve of 37 percent for this winter season. The problems that we got into were a function of weather and some major pileups of unit outages.

Q Maybe that's your one day in ten years.

A That's right. It's that sort of thing that it's intended to allow.

Q So you're okay for the next ten years?

MR. ROSSO: Objection. Argumentative.

CHAIRMAN COUFAL: Sustained.

BY MR. CHERRY:

Q What is your system reserve in 1980? Did you

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project it?

MR. ROSSO: I'm sorry. What are you referring to now, Mr. Cherry?

MR. CHERRY: Ask the witness. I asked the witness what his reserve is in 1980 based on his projection.

MR. ROSSO: Based on the projection in his testimony?

MR. CHERRY: Or any other information he has. I don't think he's projected 1980.

THE WITNESS: I don't recall.

BY MR. CHERRY:

Q Is it over or under 20?

A 1980 is the year that Campbell 3 is anticipated to come on line and to become commercially available. I think it's over 20 percent in that year.

Q What is it in '79?

A '79 is the year before Campbell 3 is available, and I believe in the summer of '79 the anticipated reserves are 16 1/2 percent at this time.

Q Are you out buying power to increase that to 20 percent?

A We have made inquiries amongst our interconnected neighbors as to what the availability of purchased capacity and energy would be in that '78, '79, '80 period.

Q I said have you gone out to buy power for the

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season when you only have 16 1/2 percent reserves?

A. We have had discussions on this. We have gone out to try to find it and make some arrangements to purchase, and they have not borne fruit yet.

Q. People told you there's no power available?

A. No, they said, the ones that we talked to -- Ontario Hydro especially -- said that in the '80s their situation --

Q. '79 is what we're talking about, Mr. Heins. Got it, '79?

MR. ROSSO: Excuse me.

Mr. Chairman, I think I just have to say this now. When a witness comes before this Board to give testimony, I think he's entitled to a degree of respect from everybody who's participating in the hearing. I think the Board owes it to the witness to see to it that the witness is accorded that respect.

We have had comments from Intervenor's counsel to the effect that the witness is a smart-aleck; he's argued with the witness; he's tried to push the witness around. And I ask the Chairman, please, to try to have the Intervenor's counsel maintain a degree and reflect a degree of respect for the witness and a degree of decorum.

CHAIRMAN COUFAL: Ask your question, Mr. Cherry.

MR. CHERRY: Yes.

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Mr. Rosso, if you had thought that happened through the period, I thought you would have objected, and then the Board Chairman could have ruled. I didn't hear you object.

BY MR. CHERRY:

Q I was dealing with '79, not '80. The reason I interrupted you is you went on my question, and we don't have a lot of time.

A 1979 was the subject of discussion with Ontario Hydro. It was Ontario Hydro's position that they did have capacity to sell in '78, '79, and I believe '80, and that we would have further discussions on it.

Q Did you buy it?

A We haven't yet.

Q Do you operate on the assumption that whenever your reserve falls below 20 percent you automatically go out and buy the difference between your reserve level?

A No, we do not.

Q Why not?

A It sometimes isn't necessary. There is usually available emergency capacity and energy from the inter-connected electric systems.

Q How much did Ontario tell you was available between '78 and '80, roughly?

A The number is not really clear in my mind, but

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somewhere between 500 and 1,000 megawatts was, as I remember, available during this period. It changed year to year.

Q And that was for about a 2- to 3-year period?

A My memory is that it was '78, '79, and '80.

Q Guess what? You could take down Palisades during that period, buy from Ontario, and get it all fixed up, couldn't you?

MR. ROSSO: Objection. Argumentative.

CHAIRMAN COUFAL: Strike the "guess what."

THE WITNESS: If we made that arrangement in order to take Palisades down, it would end up costing our customers more for their electric energy due to the fact that Palisades is a very economic generating unit.

Q It's a what?

A A very economic generating unit.

And that purchased capacity and energy generally comes from higher cost units on other systems. If we can delay the reconditioning of Palisades to the period '81 and '82, as I have described and said in my testimony, we make the price of electricity as reasonable and as minimum as we can to the customers.

Q Have you told the Public Service Commission that you're going to reduce the rates for '78, '79, and '80 if you don't buy this power from Ontario Hydro?

A No.

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Q So is it not only possible for you that there is no barrier to your shutting down Palisades; you actually have up to 1,000 megawatts that you could buy so you could fix Palisades before 1980, right?

MR. ROSSO: Objection. Argumentative.

CHAIRMAN COUFAL: Well, there are several questions. Break it up, Mr. Cherry.

MR. CHERRY: All right.

BY MR. CHERRY:

Q Earlier -- this is not a question; it's a statement -- you told me that there was no impossibility or barrier to your shutting down Palisades, fixing it up, and having it on line in 1980. Now we learn from your testimony that you could actually go out and buy up to 1,000 megawatts of power to substitute for Palisades if indeed you needed a substitution for you, is that correct?

A Ontario Hydro told us that this was available and that we could have discussions concerning the purchase of it. I presume it's still available.

Whether it's the amount to cover the entire outage at Palisades and which years it's available, I can't recall.

MR. CHERRY: I'd just like to tell Mr. Hoefling that, to the extent there is a safety problem in connection with Palisades, we now know it doesn't present a need for power problem, okay?

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BY MR. CHERRY:

Q You told me, Mr. Heins, that one of the reasons you would like to run Palisades and not buy from Ontario power during this period is because Palisades is a very economic generating station?

A The cost per kilowatt-hour from Palisades is lower than our coal-fired units and our oil-fired units and our gas-fired units.

Q At what megawatt rating?

A At whatever it's running at.

Q Do you mean to say if Palisades were operating at 300 megawatts the cost for efficiency at Palisades would still be cheaper than any of your other units?

A I don't know.

Q You don't know.

So if you would derate Palisades 5 percent each year through 1980, it might turn out the generating for Palisades at that level was more expensive than buying from Ontario Hydro; is that possible?

A I don't think it's possible, considering the range that rests between these numbers.

Q One last question about Palisades, Mr. Heins.

If your Palisades experience has been that it's very economical, doesn't it make sense to get it fixed as quickly as possible so it is operating at its fullest capacity?

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A Not necessarily.

Q Have you done that calculation?

A Yes, we did, an economic calculation as to when the least cost time would occur for the reconditioning of Palisades.

Q Based upon solely the generating capacity of Midland -- of Palisades?

What were the inputs to your analysis?

A We considered taking Palisades out of service for about a 2-year period over several years and looked at the cost of production for the rest of the system and the anticipated cost of purchasing interchange power for those years when we needed to buy it.

The results indicated that the period 1981-82 was the time at which we incurred the least cost for removal of the unit from service.

This was to be expected, since it is at that time, 1981, when the first Midland unit comes on line and provides the nuclear generated power for our system and our reserves are at the point which would permit taking Palisades out of service without incurring a great risk regarding system reliability.

Q Now, what if the Midland plant is delayed? Then your cost calculation is off, isn't it, as to the best time to shut down Palisades?

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A I don't think so. The cost calculation sets the least cost year, and that would remain -- I'm sorry. Yes, you're right. If the Midland Plant were delayed, the least cost year would probably change.

Q It might be earlier?

A Yes, it could be. It could be later.

Q If we delayed the Midland Plant in order to have a hearing to get in all the facts, it then might turn out to be cheaper for you to shut down Palisades earlier than 1981?

A That would be a possibility. I haven't made the analysis.

Q There's a lot of them you haven't made, Mr. Heins. We're going to try to do that, though, at some point.

We haven't gone through page 5 of Exhibit 12.

A Page 5 is a series of calculations carried out and added to some numbers that appeared on an exhibit which you had yesterday afternoon, the number of which I do not recall.

I calculated from the information on that exhibit of yesterday afternoon.

Q You're talking about Midland Intervenor's Exhibit 10?

A Yes, 10 is correct.

Q And you calculated what?

A I calculated from the information on Midland Intervenor's Exhibit 10 the maximum load for the years 1976

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through 1985.

Q Okay. And those are correct?

A I believe them to be correct.

Q You have some lines running through numbers. Do those represent mistakes in your calculations?

A No, that was my rounding to get the numbers with the zero on the end.

Q I see.

Now, Mr. Heins, we're probably going to take a little break for lunch, but I want to just ask a question so that I can anticipate what I want to do a little later on this afternoon.

What we have been talking about this morning is related to assessing what the capacity figures are as opposed to dealing with -- for the forecasting of demand, is that correct?

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A Yes.

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Q So that you will agree with me that we have raised during the examination this morning in our conversation with you, Mr. Heins, some serious inquiries into the assumptions you have made as their validity?

MR. ROSSO: I object. I don't think that is a fair characterization at all. He has asked him to respond to questions based on different assumptions. And he is entitled to make his own assumptions and then argue that those are the correct ones.

That doesn't mean to say that that raises serious questions about Mr. Heins' assumptions.

CHAIRMAN COUFAL: He hasn't said that Mr. Heins has said there are serious inquiries. He has asked Mr. Heins' if there have been serious ones and Mr. Heins can respond to that.

THE WITNESS: My answer is no.

BY MR. CHERRY:

Q You don't think that anything that we discussed this morning casts the slightest doubts on any of the assumptions on your generating capacity?

A That's correct.

Q Not the slightest? Okay. That's interesting.

A All of those factors were considered by us before today.

Q In other words, you don't think that it is

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irrational to consider in your generating forecast, sales that haven't been made yet?

A I do not.

Q And you don't think it is irrational to consider in your generating forecast keeping a plant on-line under an assumption that it is going to derate at a particular year, when you have no historical information to base it on?

A I do not.

Q And you don't consider it irrational to assume that there is going to be further degradation of tube failures when no one has told you that?

A I do not.

Q And you further don't think it is irrational, I take it, to assume that what ever you find at Palisades when you shut it down is going to take two years to fix?

MR. ROSSO: I would like that one --

BY MR. CHERRY:

Q I said you don't think it is irrational to assume that what ever you find in Palisades, if you shut it down, is going to take you two years to fix it?

A I do not.

Q What is the basis for the two years?

A The basis of the two years was the time required to replace or retube the steam generators at the Palisades plant.

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Q Do they all need it? Do they need to be totally replaced?

A At this moment we are -- they don't need replacing. The assumption I made regarding the continuing degradation required that we take some action at some time in the future. It was my recommendation and my decision that it should be done in the period when Midland became available.

Q If it has to be done?

A It gave us the best reserve cushion if it has to be done.

Q You don't know that it has to be done?

A I do not.

In addition, the unknown aspect; the best way to handle the reconditioning was not known. An estimate was made that up to two **years** could be required to do this. Whether it would be selected tube replacement or total steam generator replacement wasn't known -- isn't known.

Q Mr. Hoeffling asked you a question yesterday about whether Consumers Power Company had made some other alternative about sleeving to the NRC.

And you ultimately said: Yes; you did recollect that there was some discussion about sleeving. Have you made a formal recommendation to the safety authorities pursuant to your Palisades interim operating license that it is necessary to shut down Palisades at some given point for total

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refitting of the steam generators?

A. I personally?

Q. Has anyone at Consumers?

A. I don't know.

Q. Would you believe that that would be a necessary reporting element under the -- if you know -- under the terms and conditions of your provisional license for Palisades?

A. I don't know.

Q. Then it might affect your getting a permanent license if there are serious problems there?

A. I don't know.

Q. The last question before lunch, Mr. Heins:

We talked about the purchase of up to 1000 megawatts during the '78-'80 period from Ontario hydro; do you recall that?

A. Yes.

Q. There are other utilities where power is available beyond 1000 megawatts; isn't that correct, available to Consumers?

A. Not to my knowledge.

Q. I once asked a guy a question --

MR. CHERRY: This is a statement in preparation. He said: Not to my knowledge.

And I said: You know, if I put this glass in front of you, which is empty, and then I covered my eyes

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and I said: Based upon everything that is in front me, the only glass in the world is empty.

BY MR. CHERRY:

Q When you say not to my knowledge, what I want to know is, Mr. Heins, have you or anybody else called all of the utilities with which you are interconnected to determine whether there was other power available between '78 and '80?

MR. ROSSO: Mr. Chairman, I don't object to the question, but I object to the long preamble to it and move that it be stricken.

CHAIRMAN COUPAL: Sustained.

BY MR. CHERRY:

Q Mr. Heins?

A We have not contacted all of the interconnecting companies. We have contacted American Electric Power, talked with Detroit Edison, talked with CAPCO -- those are our primary sources -- and we have talked with them about that period.

Q AEP said they had scms?

A AEP said that based on their present forecast and construction programs, that they did not have excess capacity.

Q Do you know if they have any phony sales in their forecast?

MR. ROSSO: What was that?

ARB 5

BY MR. CHERRY:

Q Do you know if they have any phony sales in their forecast?

MR. ROSSO: I object to that.

CHAIRMAN COUFAL: I don't know what it means.

MR. CHERRY: It means a sale that is not consummated without an explanation or a footnote or anything on an exhibit with the representation that it represents an absolute sale. That's what I call a phony sale.

CHAIRMAN COUFAL: Answer the question based on Mr. Cherry's definition of his own word.

THE WITNESS: Of AEP?

BY MR. CHERRY:

Q Yes.

A I have no knowledge of that.

Q Do you think that you think that your exhibits were fairly representative of what has come out on cross-examination?

A Yes, I do.

MR. CHERRY: Can we break for lunch?

CHAIRMAN COUFAL: How much time do we need?

MR. CHERRY: What time is it now; 20 of 1:00?

CHAIRMAN COUFAL: Roughly.

MR. CHERRY: 1:35 is sufficient for me for my purposes.

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MR. ROSSO: Well, Mr. Chairman -- do you want this on the record?

CHAIRMAN COUFAL: Let's leave it all hang out.

MR. ROSSO: Well, my only problem is I would like to go back to my office. I have several other matters --

CHAIRMAN COUFAL: That's all right, Mr. Rosso. Just tell me what time.

MR. ROSSO: What time is it now?

CHAIRMAN COUFAL: It is 20 of 1:00.

MR. ROSSO: I would like 2:00 o'clock.

MR. CHERRY: I would object to that.

We can -- we are trying to work out a short day.

CHAIRMAN COUFAL: How much more do you have on this witness?

MR. CHERRY: A bit more. I would agree to 1:30. If Mr. Rosso can't come back, we have got Mr. Renfrow, Mr. Bacon.

CHAIRMAN COUFAL: Do you think it will run all afternoon?

MR. CHERRY: I am going to try very much to finish everything today. I am going to get to Mr. Lapinski and who ever else they have got on load forecasting.

Just a minute.

(Pause.)

We had asked for people to talk about -- we would

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like to go into load forecasting right after lunch. I think that is Mr. Lapinski?

MR. ROSSO: Long-term load forecasting, item F

MR. CHERRY: You don't do short-term?

Questions on long-term as well as short-term?

MR. BIKEL: To some extent.

MR. CHERRY: I want to get into item F; is that you?

MR. BIKEL: Yes.

MR. CHERRY: Okay.

That is what I would like to do.

I am not finished with Mr. Heins but I hope to wrap everybody up today, but it depends on how long we get and whether or not Mr. Bikel -- well.

MR. HOEFLING: Can we get some idea of when we are going to break today? We are going to have some trouble with our travel plans. National closes down at a certain time at night and we would like to get the last flight out into National which is at 7:25.

DR. LEEDS: Welcome to the club. I am sorry.

CHAIRMAN COUFAL: Don't plan on that. If we try to get rid of these witnesses that are testifying this afternoon, you would have to -- we would have to plan on being done by 5:30 to get you to O'Hare in time to catch the 7:30 flight and I just don't think that is a reasonable

prospect.

MR. ROSSO: Mr. Chairman, I would like to ask that we set a time. I don't --

CHAIRMAN COUFAL: I don't have any objection to that. What is a time that anyone would suggest?

MR. CHERRY: 8:00.

MR. ROSSO: I am sorry; I cannot stay until 8:00 o'clock. I have a personal problem. My children are waiting for me somewhere and I have to be there by 6:30.

CHAIRMAN COUFAL: Do you have a suggestion for a stopping time?

MR. ROSSO: 6:00 o'clock. At 6:00 I will already be late for picking up my children.

CHAIRMAN COUFAL: Staff?

MR. HOEFLING: We prefer 5:00 o'clock so we can catch that plane obviously, but if we are not going to break at 5:00; 6:00, 7:00, it makes no difference, really.

CHAIRMAN COUFAL: Couldn't Mr. Renfrow or Mr. Bacon or Ms. Bartleman stay on with whoever we have?

(Board conferring.)

MR. ROSSO: Mr. Chairman, there is one other factor here. When a witness has been on the stand all day, you know, it is a very trying experience for him and they get worn down.

MR. CHERRY: He is going to be off now for maybe the

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rest of the day. I don't think I have totally finished with him.

CHAIRMAN COUFAL: Let's shoot for 6:00 o'clock.

MR. ROSSO: Thank you.

CHAIRMAN COUFAL: Let's break for lunch and be back in an hour.

(Whereupon, at 12:43 p.m., the hearing in the above-entitled matter recessed to reconvene at 1:43 p.m. the same day.)

End 47
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AFTERNOON SESSION

MELTZER

2:10 p.m.

CHAIRMAN COUFAL: Let's resume, please.

Whereupon,

PHILIP L. BICKEL

was called as a witness on behalf of the Licensee, and having been first duly sworn, was examined and testified as follows:

MR. CHERRY: Before you are seated, could you get a copy of Exhibit 11 from your counsel.

MR. ROSSO: Which Exhibit 11 is that?

MR. CHERRY: Our Exhibit 11, Midland Intervenor's Exhibit 11, which was the load forecast reference, Item F.

You might take a copy of Mr. Heins' testimony with you also.

MR. ROSSO: Excuse me, Mr. Cherry, may I put the witness on first, introduce him and go through his qualifications?

MR. CHERRY: Do you have some direct questions to ask?

CHAIRMAN COUFAL: Go ahead, Mr. Rosso.

MR. CHERRY: You are presenting the witness?

MR. ROSSO: You asked for him as a witness, we are going to put him on and we are just going to identify him for everyone.

DIRECT EXAMINATION

BY MR. ROSSO:

Q Would you state your name for the record, please?

A My name is Philip L. Bickel.

Q And where do you live, Mr. Bickel?

A My business address is 212 Michigan Avenue, Jackson, Michigan.

Q And by whom are you employed?

A Consumers Power Company.

Q And what is your position with Consumers Power Company?

A My position is supervisory analyst, energy planning.

Q Could you give us your educational background, sir?

A Yes. I have a bachelor's degree in mathematics from Michigan State University, and master's degree in business administration from Wayne State University.

Q Could you tell us some of your professional experience.

A I joined Consumers Power in 1968. I worked for approximately five years in computer services, data processing area, in the analysis of and implementation of computerized systems.

I then worked for about two and a half years in the economic and financial planning department. My planning responsibility during that time being with the preparation of

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long-term energy sales forecasts for review by the Energy Forecast Executive Review Committee.

I was appointed to my present position in July of 1976.

My primary duties now are the -- again the preparation of long-term gas and electric sales for review by the Energy Forecast Committee.

In addition to that I am responsible for the management, operation and maintenance of Consumers planning model.

MR. ROSSO: I have no further questions.

CROSS-EXAMINATION

BY MR. CHERRY:

Q For the Consumer's Power Company what?

A Planning model.

Q What does it model?

A It attempts to model essentially the overall operations of Consumers Power Company.

It consists of an electric system submodel, a gas system submodel, a market submodel and a financial submodel.

Q Have you relied upon that model in connection with the Heins' testimony?

A No, sir. Not directly I have not.

Q Did you listen to Mr. Heins' cross-examination this morning?

A Yes, sir, I did.

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Q Do you agree the data in the cross-examination, none of the assumptions he made in his testimony have been open to doubt?

MR. ROSSO: Excuse me, now.

Which assumptions are we talking about?

MR. CHERRY: The ones we discussed this morning.

The witness listened.

MR. ROSSO: The problem is, sir, that this gentleman is put on with regard to questions regarding the long-range load forecast.

The questioning of Mr. Heins this morning, as I recall it, was not on that point at all, but on assumptions with regard to reserves and capacity.

So I would submit that that question is not a suitable one for this witness.

CHAIRMAN COUFAL: I don't think you can cross-examine this witness on Mr. Heins' testimony unless you can link up his contribution to it, whatever.

BY MR. CHERRY:

Q What contribution did you have to the testimony this morning?

A I prepared the material upon which the electric sales forecast was prepared and introduced into Mr. Heins' testimony.

Q Including the generating capacity assumption?

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A No, sir.

Q You didn't do that?

A No, sir.

Q Do you think it makes sense to make the assumption in connection with the Palisades plant, Mr. Heins did?

MR. ROSSO: Objection.

The witness has just said that he didn't have any part in that part of the testimony.

MR. CHERRY: The man deals in economic forecasting; financial forecasting; he deals with the financial model of the company; he has prepared some of the exhibits. He is competent to answer the question.

CHAIRMAN COUFAL: He may be competent.

I think the objection is good.

MR. CHERRY: Why?

He is my witness, I called for him. There has been no direct testimony. I am entitled to ask him anything I want that is relevant to the case.

MR. ROSSO: That is simply not true.

This witness was --

CHAIRMAN COUFAL: I don't think that -- this witness was called, as I understand it, to provide backup testimony for Mr. Heins' area on computer programming.

Is that right?

MR. ROSSO: That is correct.

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We specifically said yesterday when Mr. Heins was on the stand and was being asked questions which went specifically to the methods, the techniques, what are the inputs, et cetera, which went into the long-range energy sales forecasts for the company, that it was Mr. Bickel who did that and provided it to Mr. Heins.

At that point Mr. Cherry said he then wanted to see Mr. Bickel.

We said Mr. Bickel is here, we will be glad to put him on in order that he may answer any questions which Mr. Cherry has on that subject area.

CHAIRMAN COUFAL: If you want to call him later as part of your case, that is another matter, I guess.

MR. CHERRY: Will you be available, Mr. Bickel?

THE WITNESS: Yes, I will.

Perhaps I should say something in response to --

MR. CHERRY: You may say it to Mr. Rosso, it is his objection. Just as long as you will be available and that commitment is acknowledged.

MR. ROSSO: Excuse me. Wait a minute now. Just as long as he will be available for what?

MR. CHERRY: Later on.

MR. ROSSO: For you to call him as a witness on generating capacity?

MR. CHERRY: On whatever I want.

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MR. ROSSO: Mr. Chairman, I will not undertake to make this witness available to Mr. Cherry to testify on subjects which either have nothing to do with the case, or if they have something to do with the case that this witness knows nothing about, or didn't participate in.

CHAIRMAN COUFAL: Mr. Rosso, I don't know what Mr. Cherry is going to ask him, but Mr. Cherry has the right to call witnesses and can ask that witnesses be subpoenaed.

MR. ROSSO: Okay.

CHAIRMAN COUFAL: And they can be employees, and it may very well turn out that he doesn't know what Mr. Cherry is going to want to know. But he is free to testify.

BY MR. CHERRY:

Q Let me ask the question this way:

Do you have any expertise in the matters that were the subject of Mr. Heins' cross-examination this morning?

MR. ROSSO: See, that is a very broad question.

There may have been questions asked this morning which related to the load forecast. As a matter of fact, I think there were.

If this witness answers no to that question with the intent of saying no with regard to the generating part of it, then Mr. Cherry can point to that later.

The question is vague and I object to it on that basis.

BY MR. CHERRY:

Q Other than load forecasting?

A My area of expertise in Mr. Heins' testimony, in my opinion, is limited to the load forecasting. And by load I mean kilowatt hour sales projections.

Q ARE you telling me that the subject matters that fall within your expertise as you define them, whether or not they are in Mr. Heins' testimony, is limited to the sale of energy in kilowatt hours?

A Perhaps you are misinterpreting what I meant as far as the management and maintenance of the planning model.

Q Why don't you just answer my question?

A I believe I am doing that, sir.

Q Well, are you telling me that your expertise, as you understand it, based on your educational experience, is limited to projection of energy sales in kilowatt hours and nothing else?

A In relation to this hearing, I would say most assuredly, yes.

Q No, no, you don't make the judgment as it relates to this hearing.

I just want you to tell me if the answer to that question is yes or no.

If it is no, then list for me the other areas of your expertise and I will decide whether it relates to the

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hearing.

MR. ROSSO: Objection.

The question has been asked and answered, and moreover, the witness has every right to qualify his answer in the way he did.

MR. CHERRY: Mr. Chairman, I don't know what he means by relate to this hearing.

BY MR. CHERRY:

Q Explain that answer, Mr. Beckel?

A All right.

When I define part of my duty as the management, maintenance, et cetera, of the planning model, I am not the resident expert in the major areas. I am not, for example, the resident expert in the electric system area, nor am I the resident expert in the gas system area or the financial model area.

There are many other people around the company who are expert.

I handle the data collection assimilation, assurance of consistency, and running of the model itself.

I am, however, directly responsible for what we call the market model which generate -- pardon me, which projects future kilowatt hour sales, long-range sales projections.

Q Is Mr. Heins an expert considered by the company

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in this certain area?

A I don't understand the question.

Q You said there were resident experts in the company.

Is Mr. Heins considered by you and those of the company as a resident expert in any area?

A Yes.

Q Which areas?

A I would say -- and again this is my opinion -- I would say certainly as far as system planning.

Q System planning.

A Not necessarily limited to that.

Q No, no. I appreciate that.

Let me ask you a question based on your expertise: Do you believe that an expert, when he issues a judgment, should rely upon what someone told him without making an independent investigation of the facts?

MR. ROSSO: I object to that.

We went all through this yesterday. We explained that this is an integrated company and that people do rely on the output from various departments in the company. And this really isn't getting us anywhere, sir.

CHAIRMAN COUFAL: Mr. Cherry, limit the question to what this expert would reflect upon as he was making his judgment, not his opinion as to what other experts ought to do or not.

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BY MR. CHERRY:

Q Mr. Bickel, is it fair to say that Midland Intervenor's Exhibit 11, which is the Item F that we refer to -- I will refer to as Midland Intervenor's 11, is nothing more than a multiplication effort?

In other words, you take residential use predictions which you have arrived at by some means other than that computer code, and then you multiply it times an assumed rate growth?

A Yes.

Q So that it is not an analytical computer code at all?

A That's correct.

Q We could do the same thing this computer did if we wanted to work it out by hand numbers, and then multiply things against something else, right?

A In fact, I have done that in past years. That is correct.

Q So that the inputs in this code and how they are arrived at is what is really important?

A That is precisely correct.

Q Okay.

How did you arrive at the input for space heating use for residential customers? used in Exhibit 11?

A Are you talking residential domestic customers, or

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residential space heat customers?

Q Space heat.

A All right.

The projection of residential space heat customers was developed by myself in conjunction with very knowledgeable persons in the areas of -- with expertise in the areas of conservation, appliance saturation, average usages per appliance, et cetera.

What we did was to look at what our current mix of customers in the residential space heat category is, and what the approximate average is by the type of customer. By type of customer now I am talking about seasonal as one type of space heating customer, and year-round as another type, with a totally different usage pattern.

Mobile homes and apartments also have somewhat different usage patterns in average use.

We then looked at that and attempted to adjust the average use figures by appliance by category to reflect conservation and other factors.

We then attempted to project what the mix of customers would be in the future years. In other words, what percentage we anticipate would be in a year-round category, what percentage would be in the seasonal, et cetera. And based on that analysis came up with a projection of residential space heating average use.

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Q Mr. Bickel, we asked for the backup of the long-term forecast.

A Yes.

Q All you gave us was a multiplication table.

Why didn't you provide us with the information you just expressed?

MR. ROSSO: You know, Mr. Chairman, we told this Board this was going to happen. We told this Board on December 14th, when Mr. Cherry said that he was going to put Dr. Timm on the phone with the people in Consumers, and that Dr. Timm and the people in Consumers would work out exactly what documents Dr. Timm wanted.

Okay?

After we came back in the room and Dr. Timm had spoken to them and they had agreed -- he had agreed as to what documents he wanted, we came back in the room, we talked to our own people and they said to us, those documents will not give him what he really wants.

We told the Board that, it is in the transcript. We told Mr. Cherry that, it is in the transcript. And he insisted that those were the documents he wanted and he insisted that that is what he wanted, period.

Now we told -- this is all in the record, and if he didn't get what he wanted, he has only himself to blame at this point, sir. And I think Dr. Leeds who was there, and

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Dr. Luebke who was there, would remember that dialogue quite explicitly.

MR. CHERRY: Mr. Chairman, I think what Mr. Rosso said is not relevant to the inquiry for the following reasons:

This witness has been tendered, and I am entitled to cross-examine this witness on the basis of information. We don't have that information.

Dr. Timm had a conversation with Mr. Bickel, and as a result of that conversation with Mr. Bickel and others, he had been assured that he had sufficient information with which to understand how the computations were arrived at.

We were not told that it was a computation model, and we were not told that the computer code was a mathematical addition.

It does not seem to me that Mr. Rosso's objection is fair, otherwise. I have many other questions of Mr. Bickel, and I want those documents.

MR. ROSSO: You know, we offered to provide those documents before. We have no objection in providing them now.

CHAIRMAN COUFAL: All right.

MR. ROSSO: They didn't want them.

BY MR. CHERRY:

Q Now, what factors other than conservation did you look at when you generated the numbers you just described?

A We are talking now about the projection of

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residential space heating average use?

Q Right.

A We scertainly, as I mentioned, look at the mix of customers. That is, what percentage of residential space heat customers. Additions would be year-round homes, what percent would be seasonal, and others, because they do have different usage patterns.

We also attempted to integrate studies that have been done within the company on such things as a heat problem which could cause a home to be heated electrically with a smaller kilowatt hour input.

We also looked at a series of studies -- I talked with several people around the company and the department, such as energy consultant services, the rates department to look at projected rates, and their opinion on what the input might be.

Q Did you consider price elasticity?

A How would you distinguish price elasticity from conservation, sir?

Q Conservation could be arrived at in a variety of ways other than price elasticity. Is that possible?

A I personally have a very difficult time getting two separate and distinct concepts; one which is price elasticity, the other which is price conservation.

Q I am talking when I use price elasticity, I am

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talking about a reduced use of electricity because of a higher price, okay?

When I talk about conservation, there are a whole range of ways in which people can conserve electric energy. For example, not having promotional energy advertising, by just deciding to change their patterns without regard to price, by having responsible appliance manufacturers, and by having responsible utilities.

There are an awful lot of ways in which you can deal with conservation by making generating facilities more efficient.

All right?

You can pass laws that require certain taxation.

But when I talk about price elasticity, I am merely talking about an increase in the price of electricity and its impact on usage.

And as that is defined, did you factor in price elasticity?

A Yes, we attempted to factor that in.

Q What do you mean you attempted?

A Well, we factored it in, but I don't know that I can quantify the precise amount by which things were reduced by that factor as opposed to greater appliance efficiency.

By the way, we also assumed another factor. What I did do, as I mentioned, is have some fairly lengthy discussions

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with the persons in the company whom I consider to be extremely knowledgeable in the areas of rate structure, rate research and the overall market.

Q Can you list for me the factors that you looked at first which tended to lower consumption, and those which tended to increase consumption?

A Yes.

Certainly the conservation price elasticity -- I will call it conservation/price elasticity, but if you wish you can separate them.

Q Well, no, how did you do it?

I mean, did you factor in just price elasticity or did you lump it in under conservation. And if so, define the term conservation.

A We basically looked at an overall conservation term which reflects price effects, which would then, in your term, I believe, reflect price elasticity.

Q What else did you consider in your overall conservation scheme?

A We looked at projected reduction in average use per appliance with more efficient appliances.

Q What else?

A These again are under the heading of factors which tend to lower average use.

Q What I am looking for now is what you lumped

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in conservation, in addition to price elasticity.

MR. ROSSO: Mr. Chairman, I think that we have two questions pending at this point in time.

One is, what did you lump under energy conservation, and the other one is what factors did you consider when you were looking at those which would decrease energy consumption?

And I do want the record to be clear as to which precise question this witness is to answer, because I don't want him to be answering the more limited question and then have the transcript look like he was trying to answer the broader question and that he did not answer completely.

CHAIRMAN COUFAL: Mr. Bickel, can you give your answer in such a way that your counsel's concern will be eliminated?

BY MR. CHERRY:

Q Just give me what is included in conservation in addition to price elasticity as you used it in the study?

A The other major factor is reduction in average use per appliance, either because of more efficient appliances or because of attempts by the customers to use them more efficiently.

Q Anything else?

A Those are the major ones to come to mind. Again you have requested the backup so this will come out in more detail when you receive that backup.

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Q Can you recall any others, Mr. Bickel?

A I cannot right at the moment.

Q Okay.

Now in addition to conservation in the factors that would lower demand, what other factors did you find would lower demand by usage?

MR. ROSSO: I am sorry. Again I just want the record to be clear on this.

Are we talking -- what class of customers are we talking about both in that last question and on this one?

MR. CHERRY: Mr. Rosso, you have an obligation to follow the testimony.

BY MR. CHERRY:

Q Would you tell your counsel what we are talking about?

A It is my understanding that we are talking now about residential space heating.

MR. CHERRY: Okay.

Are you satisfied, Mr. Rosso?

MR. ROSSO: Yes, thank you.

BY MR. CHERRY:

Q Let's go on.

What other factors in your study did you conclude would have a lowering of usage effect besides conservation as you have defined it?

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A There certainly could be some --

Q Not certain -- what I am interested in is what you looked at in this study that was a factor which you concluded had a tendency to lower usage.

I don't want you to tell me what factors might be applicable. I want to know what you looked at when you computed the projected forecast for residential space heating.

Do you understand my question?

MR. ROSSO: Mr. Chairman, I object.

The witness had started to answer the question. He should be permitted to complete his answer and then Mr. Cherry can always move to strike it if he thinks the answer is not an answer to his question. But he just simply can't cut a witness off all the time like that.

MR. CHERRY: Do you understand my question, Mr. Bickel?

CHAIRMAN COUFAL: Do you understand the question?

THE WITNESS: Are you not responding to my attorney? Is that correct?

CHAIRMAN COUFAL: I agree with your attorney that counsel shouldn't cut you off.

MR. ROSSO: But I have an objection to the second question. I want that stricken so that we can go back to the first question that was asked, have it reread and then let Mr. Bickel continue with his answer.

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CHAIRMAN COUFAL: Were you cut off in the middle of an answer, Mr. Bickel?

THE WITNESS: Yes, sir, I was.

CHAIRMAN COUFAL: All right.

Finish whatever answer you were making.

THE WITNESS: I was trying to say that there certainly could be some impact as the result of the revised rate structures, or potentially revised rate structures. That is not my area of expertise.

But I did have some input from an area who definitely is an expert in that particular category.

I think that other than that, I have summarized the major factors that we looked at in projecting residential space heating average use as it might be defined.

BY MR. CHERRY:

Q There are only two of them. Conservation which had two elements, and some effect from the rise in rate structures, is that correct?

A As I say, I will have a much better idea when I have a chance to go back and review all of my backups.

Q You mean to say you didn't bring that information with you?

A I don't believe I have all of that with me now.

Q Do you have any of it with you?

A Not in this room, I don't believe so.

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Q Is it in Chicago?

A I might have some of it with me. I am not certain.

Q Would you take a look, please?

A All right.

Q And Mr. Bickel, my question would include documents in the possession of your attorneys, Mr. Lapinski, Mr. Heins, or anybody else, not just in that briefcase.

(Pause.)

A Given my statement that we included as part of conservation the impact of more efficient appliances, I will stand on my answer.

Q I asked you if you brought some backup.

Did you consult some papers just now?

A I did.

Q May I see them?

Mr. Bickel, I don't think you have understood my request.

I would like you to take that document out and explain to me what backup you have here that your attorney said I could have had if I had asked for it and they will send me next week. So if it is here, I might not have to wait that long.

Do you understand my question, Mr. Bickel?

A Yes, I think I do.

Q Would you mind removing that briefcase, bringing

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it to the table and explaining to me what backup to your computer output you have brought with you.

Can we stop fooling around. Can we just get it?

MR. ROSSO: All right, let us stop fooling around.

He didn't ask that before, he asked him what document -- did you consult with a document? Yes. What document did you consult with? He said it is in my book. He said, let me see the document, so he went and got the document.

So, let's stop fooling around. What do you want?

MR. CHERRY: I would like to know if you brought with you your backup material.

You told me you brought some of it with you. After having received that answer I said, would you please tell me what you have, not just limited to that particular question, but limited to all of the input to the Exhibit 11.

And I said, don't limit yourself to what you have in the briefcase, but what is in the possession of your lawyers, Mr. Heins, or Mr. Lapinski in Chicago.

It might be possible for me to avoid bringing you back here again if you have that material with you, so I would like to see it.

MR. ROSSO: That wasn't the way I understood it, and I don't think that was the way the witness understood it.

If we can have two minutes, I will try to determine

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what it is that the witness has with him.

CHAIRMAN COUFAL: All right, you can have two minutes.

MR. CHERRY: Not just what the witness has, but what is available in Chicago in the possession of you, Mr. Lapinski or Mr. Heins.

MR. ROSSO: That will take a little longer.

(Pause.)

MR. ROSSO: Mr. Chairman, I have conferred with the witness and I guess I have the following statement to make for the record:

As we informed the Board a long time ago, there are just an enormous amount of documents that fall within the document request which Mr. Cherry had originally made in this matter.

Included among those are a lot of backup material which refers to matters which went into Mr. Bickel's consideration in doing this load forecast. Some of those have already been produced for Mr. Cherry and he has copies of them.

I am told that there is a good deal of material regarding energy conservation that he has already obtained copies of.

Some of it has not yet been produced. It is in our offices. It is currently being indexed in accordance with the

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system that we set up for the producing of documents. And we expect that it can be completely indexed by sometime this coming week.

Now that is one mass of documents. I don't know how much that is. Ms. Bartelman in an offhand estimate said that it is a stack that could be 15 feet high. Now I don't know that it is 15 feet high, but that is the best offhand estimate I have now.

Beyond that--

MR. CHERRY: She is shaking her head, no.

MR. ROSSO: No?

(Mr. Rosso and Ms. Bartelman conferring)

MR. ROSSO: I'm sorry. Apparently I misspoke.

A couple of feet high, at least, she said. But again this is a rough estimate. There are a lot of documents there.

Now with him here today, Mr. Bickel has two notebooks which have some backup material which he brought with him which relates directly to the study that he did. So he would be prepared to proceed on the basis of the material he now has available to him and we would be prepared to proceed with the document production that we have been going along doing, next week, with regard to the other materials.

CHAIRMAN COUFAL: Thank you.

BY MR. CHERRY:

Q Mr. Bickel, just so that I can have firm in my mind

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all of the factors that you looked at in projecting residential space heating usage, and which had a tendency, you concluded, to lower demand or conservation which included price elasticity and more efficient use of appliances has some impact as the result of revised rate structures, is that correct?

A That's correct.

Q When you said price elasticity, did you mean price of electricity?

A I meant price of electricity as it relates to price of other fuels. But yes, price of electricity primarily.

Q Yes.

When you look at alternative prices of fuel, isn't that cross elasticity?

A Yes.

Q So then am I correct to say that you did not look at price elasticity as part of the conservation elements that you looked at that had a tendency to reduce demand?

A Again, since I personally have -- tend to lump conservation with price elasticity, I am not sure that I can respond to that.

Q You told me, Mr. Bickel, that conservation included two elements; price elasticity and more efficient use of appliances.

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Was that your testimony?

A Use of more efficient appliances.

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Q Now, when you mentioned price elasticity and more efficient use of appliances, were those the only factors that you lumped into conservation, or were there others?

A We would have to consult with the individuals to whom I talked, I think, in order to get whatever other input they might have had in arriving with me at a projection of average use.

Q You don't know?

A To the best of my knowledge, those are the major considerations, but these people might have had other things that were in their information at the time we talked.

Q Is this a subjective study?

A It was quantitative, but obviously it was based on professional judgment.

Q But, I mean, it wasn't based on any actual study you made. It was people who drew upon their information and then subjectively produced numbers based upon what their mental analysis was? Is that correct?

MR. ROSSO: Objection, Mr. Chairman. Mis-characterization of the testimony.

CHAIRMAN COUFAL: He asked a question. If that is not what the witness has testified to, he can say so, Mr. Rosso.

BY MR. CHERRY:

Q Mr. Bickel?

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A. The average use projection for a specific type of residential space heating for each type of customer was based primarily on the factors that you have indicated.

We did, however, attempt to, as I mentioned earlier, quantify the energy reductions in specific appliances due to more efficient appliances.

Q. Was it a subjective study, Mr. Bickel.

A. Based on the best professional judgment of the most knowledgeable persons within the company, yes.

Q. Right. That's a term that's as yet undefined, "most knowledgeable persons in the company."

But what I want to get at, Mr. Bickel, is, as opposed to going out and looking at actual performance over five years and then basing your projection on that actual performance, you didn't do that. What you did is you sat around, either in a group or a series of group interviews, and you asked people to give you what they thought, based upon their knowledge, what they thought projections would be.

And the reason you can't tell me all the elements is because you can't read everybody's mind during the interview, is that correct?

A. I believe I would like to restate that statement, if I could.

Q. Can you answer my question?

A. Well, which one of your questions that was

blt 3

involved in that would you like me to answer right now?

Q Is that the reason you can't tell me everything that was included in the projection, is because it's difficult to read someone's mind and, unless they tell you what they're basing it upon, you won't really know? Is that correct?

A That is true; however --

Q Wait a minute. Just a moment, now.

Was that part of the reason why you said you couldn't be sure of all of the items that were considered in the study?

MR. ROSSO: I think we ought to get the "however" on the record before we get to that second question, sir. I move to strike.

CHAIRMAN COUFAL: What's the "however", Mr. Bickel?

THE WITNESS: The "however" is, very early in the phrasing of Mr. Cherry's question he said it was not based on any studies. It was based on some studies to the extent that the Rate Research Department of Consumers Power Company has in fact been studying conservation, using a sampling technique, of residential and commercial customers since about the beginning of the public awareness of the energy crisis in late 1973.

So, while I did say it was subjective, I probably should rephrase that to say that it was subjective professional

t 4

judgment based on data as the result of that study.

BY MR. CHERRY:

Q What were the results in 1973 of that study?

CHAIRMAN COUFAL: I'm sorry. I didn't get that question, Mr. Cherry.

MR. CHERRY: What were the results in 1973 of the study he just mentioned?

THE WITNESS: As I said, the studies began about the end of '73, the beginning of '74. I don't recall the precise numbers. That particular study was done by our Rate Research Department.

BY MR. CHERRY:

Q Would you look at that and see if it refreshes your recollection?

(Document handed to the witness.)

MR. ROSSO: Has this been marked as an exhibit?

MR. CHERRY: I don't intend to mark it. I just intend to let the witness use it to see if it refreshes his recollection, in which event I will take it back and have him testify based on his recollection.

MR. ROSSO: Is this a document that you obtained from our files?

MR. CHERRY: Yes.

MR. ROSSO: Thank you.

THE WITNESS: This is a document prepared during

blt5

the latter portions of that study.

BY MR. CHERRY:

Q Does that reflect your recollection as to what the results were for 1973?

A Certainly not -- well, let me read it in detail before I answer.

(Witness reading document.)

MR. CHERRY: May I take a look at this book while you're doing it?

THE WITNESS: Sure. Do you want this one? This is the one that's more relevant, in my opinion.

(Documents handed to Mr. Cherry.)

BY MR. CHERRY:

Q Mr. Bickel, could you answer the question now?

A You asked if it refreshed my memory. The answer is yes.

Q I asked you whether or not you could tell me what the results of your study were in 1973.

A There's a section here that says the historical data for the --

Q Just a minute. I don't want you to read from the document. You told me you didn't know unless you looked at something. Now I want to know if, after having looked at that, you can now tell me what the results are from your memory.

A Yes.

Q What are they?

A Residential space heating in the first year for the sample selected had a decrease in average use of 13.2 percent. In the second year of the study, they had a decrease of 5.9 percent, and in the third year they had a decrease in average use of 2.2 percent.

Q Now, Mr. Bickel --

A Shall we trade documents now?

Q No, I'm still looking at yours.

Mr. Bickel, I want to go back now to really try to be very, very clear about what you meant by "conservation," because I'm still confused.

Do you agree with me that looking at the price of alternative fuels is cross-elasticity and not price elasticity? Is that correct?

A I do.

Q Now, define "price elasticity" for me as you understand the term.

A Price elasticity is the percent change in quantity demand divided by the percent change in price.

Q Of any fuel?

A Of any commodity.

Q Now, did you do a price elasticity study in connection with conservation?

lt 7

A Mr. Cherry, this line of questioning would be much more adequately directed at another individual in our company, who is responsible for not only the conservation studies but also a price elasticity study.

MR. CHERRY: Mr. Chairman, I'd just like to take a moment to say something.

One of the favorite techniques of utilities in rate hearings is to bring a man to a hearing who doesn't know very much about anything and then try to wear down the regulators, which they generally do, by saying, "That's back at the office; that's back here; that's back there."

I don't know whether or not the Board is aware that Consumers Power has an obligation to put on the case. Now, without regard to making any conclusory statements about Mr. Heins' exhibits, it's quite clear, at least to the average reader, if you had no backup information you wouldn't have been able to determine whether or not those prices, those sales were real in the assumptions for Palisades. You just wouldn't have known that.

I don't know if you want to know that or if that's important to you. That's a different question. I happen to think those assumptions are important. If I were an attorney preparing those exhibits, I would have put in footnotes and I would have set forth all of those matters.

Now, this hearing can take a long time if this

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is the kind of answer I get every time I ask a reasonably important inquiry. That's not my job. I can't continue to try a case like that, and I would like some guidance from the Board as to whether or not the Board is at this point sufficiently disposed to tell Consumers Power that it does not believe its studies based upon the cross-examination thus far or whether it hasn't made up its mind it's going to direct Consumers Power to bring the people here who can answer the questions without my wasting time to do so.

I will continue to do so, but my obligation in this case is not to find the right question to ask of a man who will then tell me, "That's not my study."

I am asking questions of a man that was tendered to me as someone who can explain how the forecast is made. I asked him whether or not it included price elasticity, and I didn't get a direct answer. He told me that it had to do with cross-elasticity.

Then I asked him to define it. He tells me for that definition I have to go somewhere else.

I'd like some guidance from the Board as to how you want me to proceed, because, after all, I'm trying to put in a case and convince you that this license ought to be suspended.

But the Board has an independent obligation to find out if it has sufficient material upon which to rely

blt9

not to suspend the license if it has that shape of mind, and I want to be guided by it. What do you want me to do? Continue to cope with this and have this hearing last six weeks?

MR. ROSSO: Mr. Chairman, may I respond?

CHAIRMAN COUFAL: Yes.

MR. ROSSO: Mr. Chairman, one of the issues in this case was the need for power. The man at Consumers Power Company who is the logical man to testify to that, who is the man who puts together all of the inputs that come in from the company, is Mr. Heins.

Mr. Heins was put on the stand, and he presented the result of his studies which synthesize all these other materials that he gets: the material he gets from Mr. Bickel with regard to the long-range energy forecast, the material he gets from Mr. Lapinski, the material he gets from Mr. Climer with regard to conservation of energy, and a variety of other experts.

You cannot run a company like Consumers Power Company with one man who is an expert on everything, who knows everything, who does everything. It's a team effort; it's an integrated company.

We believe that Consumers Power has some of the top experts in the company working in the specific areas of input which went into the evaluations that Mr. Heins then

tlt 10

put into his testimony and presented to this Board.

Now, all we can do is come in here and present you with the conclusions of the study. Otherwise, we would have submitted exhibits.

If I had taken Mr. Cherry's suggestion, for example, that would have included, just for starters, and just with regard to Mr. Bickel, these two volumes, plus any other material that Mr. Cherry has already obtained from our documents, plus any other materials which we are currently indexing.

What he in effect is telling this Board is that he wants us to put in every piece of paper in evidence which led up to the final conclusions that Mr. Heins brought before the Board.

Now, the way a case is put on is that you put on your conclusions, you put on your study. Then somebody else says, "I've got some questions about this study. I want to see your backup materials. I want to see your documents." He looks through them, and he picks out what he thinks is wrong with the study or the assumptions that he would like to change in order to make his case.

He comes in; he cross-examines you; he tries to see whether he can poke holes in it. If he can or he can't, that's another question. Then he puts on his own case to say, "I think their assumptions are dumb because, and ours

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are good because," and he puts on an expert who gives you his assumptions and his conclusions.

There is no other way that we could have put this case on.

Now, as to the final point on this, when he got to a point with Mr. Heins where he got into the inputs that came from Mr. Bickel, Mr. Bickel was here. We had him in this room within minutes.

Now, when he wants to talk to Mr. Lapinski, Mr. Lapinski is here. If he wants to talk to Mr. Climer, we will bring Mr. Climer here. We will bring here whoever this Board feels it needs to talk to with regard to the input into the work that Mr. Heins finally presented to the Board.

That's all we can do, sir. That is all we can do.

CHAIRMAN COUFAL: Do you want to continue your cross with this witness, Mr. Cherry?

MR. CHERRY: I'm sorry I brought the question up, sir.

CHAIRMAN COUFAL: It's a good question to bring up. I'm glad you both aired your points of view. I learned something from each of you.

BY MR. CHERRY:

Q Mr. Bickel, my pending question was, what is your understanding of price elasticity? I want your understanding.

A Price elasticity is the percent change in quantity

b1:12

demand divided by the percent change in price.

Q Did you consider price elasticity as part of conservation, as one of the factors that you believe would lower demand in connection with projecting residential space heating requirements?

A Lower demand -- you mean lower average use?

Q Yes.

A Yes, I did. That was inherent in the material that I derived with and from Jim Climer.

As far as how it was incorporated in Mr. Climer's mind, I think it would be inappropriate for me to try to respond. He would be the best one to respond to that.

Q Didn't he give you a piece of paper which explained what he believed?

A Most of this was done in discussions.

Q You went around and talked to people and they gave you conclusions, and Mr. Climer gave you some, which you believe included price elasticity, is that correct?

A That's certainly a very, very gross generalization. That's not at all the way it occurred in all cases.

Q Did it occur in connection with Mr. Climer's case?

A With Mr. Climer, I had -- Mr. Climer and I have a very good working relationship. I feel free to go into his office, sit down --

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Q I'm real happy for you. I just want to know, have you talked to Mr. Climer --

CHAIRMAN COUFAL: Just a minute.

Finish your answer.

THE WITNESS: When I talked to Mr. Climer, yes, he did give me his insight into what he thought the logical decrease in average use per appliance per residential customer for a specific type of residential customer would be. I'm sure that did include some price elasticity.

Q You're sure it included price elasticity?

A I'm sure --Mr. Climer would be the one to respond to that question, but in my mind I'd be amazed if he did not.

Q And what are you basing that on?

A On knowing Mr. Climer and knowing he's an extremely thorough and competent man.

Q Did Mr. Climer tell you that he had done a study which factored in price elasticity?

MR. ROSSO: If you remember.

THE WITNESS: I'm sorry. What was that?

MR. ROSSO: If you remember.

THE WITNESS: I was very much aware of the study which you have just refreshed my memory on.

BY MR. CHERRY:

Q Did Mr. Climer tell you that the figures he gave you for use as an input, that you used in connection with

b1t 14

the testimony presented here today, expressly included a factor for price elasticity?

A I do not recall whether he specifically mentioned that or not.

Q What was the factor quantified for price elasticity? In other words, how did it have an impact in Mr. Climer's input that you used?

MR. ROSSO: May I ask the witness a question?

Do you need your backup books in order to answer that?

THE WITNESS: It would certainly be beneficial, yes.

MR. ROSSO: Since Mr. Cherry has the backup books, I would ask that they be returned to the witness so he can try to answer these questions.

BY MR. CHERRY:

Q Is Mr. Climer's report in writing?

MR. ROSSO: Excuse me, sir. I have a motion pending before the Board.

CHAIRMAN COUFAL: You do.

If the witness needs his books to testify, please give them back to him.

BY MR. CHERRY:

Q Mr. Climer has a report in here that you can find?

CHAIRMAN COUFAL: Mr. Cherry, give him the books,

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will you please?

(Documents handed to the witness.)

BY MR. CHERRY:

Q Does Mr. Climer have a report in here?

A To the best of my knowledge, he does not have a report per se. What I do have, I believe, are notes of a conversation.

If I don't have them here, I most assuredly have them somewhere. They were in the packet that was put together in an attempt to comply with your original request.

Q Now that you have the books, would you look?

A Yes.

(Witness reading documents.)

I do not believe I have those specific items with me. I know I have notes from the discussion. I will certainly try to find them.

Q When you had this discussion with Mr. Climer, he gave you his judgment based on what he thought would happen in the future based on factors that you believe included price elasticity?

A I would phrase it by saying that Mr. Climer and Mr. Baker and myself arrived at a projection which we believe was reasonable. This projection was done, proposed and presented, along with many other factors, to the Energy Forecasting Review Committee, and it was their decision to adopt

p16

that particular projection of average use.

Q I thought Mr. Heins said that your study was independent and confirmed what they arrived at. You're now telling me that they arrived at their study by taking your stuff and arriving at a result, and your study confirmed that it was the same input in both studies? I'm a little confused.

A I'm sorry. Let me rephrase this.

Forecasting is, as I know you're aware, is continual. Forecasting is going on all the time. We're continually gathering information and revising previous studies.

The confirmatory study that we're talking about now, you're right, the Forecast Committee has not seen that. So the confirmation I'm referring to is a review of the Forecast Committee which actually took place, I believe, in 1975, but I'm not absolutely certain of that.

Q The study that you prepared was done in 1975, that you testified about?

A The original study that I did, that I was involved in, on residential space heat averages, I put together in June of 1974 with Mr. Climer. I have revised that and gone over the assumptions with him and adjusted it as appeared necessary at least twice since that time.

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Q When is the first time you adjusted it?

A The first time I adjusted the 6/74 version.

Q Yes.

A I don't recall; sometime either in late '74 or early '75.

Q Then the next time you adjusted it? That you recall?

A I believe it was very late '75.

Q Has it been adjusted since then?

A I have made some adjustments on my own, based on previous discussions with Mr. Climer which I have not yet reviewed with Mr. Climer which are in the affirmatory study, using essentially the same assumptions.

Q But the forecast is based upon the study you did in '74 as amended by the late '74, late '75 correction?

A As I say, it is a continuum; yes.

Q Is the answer to my question yes, Mr. Bickel?

A As I said; yes.

Q This is 1977. You mean that the data upon which the testimony is based doesn't include any '76 input?

A No, sir; I don't mean that.

Q If the forecast was made based upon a report that you did in '74 and it was revised twice and the latest being in late '75, explain your answer.

A I made a review of that study within the last two

rb2

months, a review of the projection of averages and I don't believe -- no; in fact I am sure I did not -- get back in touch with Mr. Kleimer.

I believe I may have made some minor adjustments at certain points, but for the most part, the results still look very valid to me.

Q You said that you rely upon a lot of knowledgeable people in the company for that forecast.

A That's correct?

Q Well, since your last update in 1975 in connection with this study presented to this Board, did you talk to any of those knowledgeable people specifically about this forecast?

A Specifically about this forecast; yes, I have, although not necessarily to everyone that provided input in '75, nor necessarily to everyone that provided input in '74.

Q Then how do you know you have gotten everybody's up-to-date view?

A Obviously, there is no way to be absolutely certain, but I am quite convinced -- at least 95 percent convinced -- that I do have very recent views.

Q Even though you didn't talk to a lot of people in 1976 about it?

A Based on my judgment, having talked with them for a couple of years; yes.

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Q Who else besides Mr. Climer have you been talking to?

A In what area, sir?

Q Residential space heating.

A I have talked also with Mr. Baker of the rates research department.

Q Did you talk to Mr. Baker in 1976, specifically about your forecast that you are supporting here today?

A I don't have any document to the effect that I did. But I certainly have talked to him within the last two or three months about this type of thing; how the conversation study was going and that sort of thing.

Q Your answer is no, then?

MR. ROSSO: I didn't understand the answer to be no.

BY MR. CHERRY:

Q Did you talk to Mr. Baker specifically about forecasts that you are supporting here today, such conversation occurring any time in 1976?

A If so, it would have been in early '76.

Q But you are not sure you did?

A I am not sure I did. It was either extremely late '75 -- by that I mean November -December -- or early '76.

Mr. Cherry, could I make one comment on this. As I pointed out earlier, I have been in the load forecasting

area since November of '73. During first couple of years, it was very necessary for me to satisfy myself that I was the doing job, in order -- to keep in relatively constant contact with people.

Hopefully since that time I have developed enough expertise to be able to look at conditions as they are currently going with occasional feedback from certain areas and make some of my own judgments in certain areas.

BY MR. CHERRY:

Q So the forecast you are supporting now is your own judgment and isn't relying on those other experts?

A Yes; my judgment based on prior discussion with the experts.

Q Mr. Climer, you did not review your most recent '76 input with him; is that correct?

A Yes; I believe that is correct.

Q Who else besides Climer and Baker did you talk to, to rely upon, or did you walk in their offices --

MR. ROSSO: Could I have the question reread or restated? I didn't hear it.

BY MR. CHERRY:

Q Who else besides Climer and Baker do you consider as people that you rely upon in connection with your load forecasting study?

A I have talked with individuals in the energy

rb6 consulting services department. They were -- they have prepared at least one study; perhaps a series of studies, specifically dealing with the impact of the heat pump. So I have --

Q When did you talk to them?

A I talked with them -- that was again late '75.

Q Did you talk with them in '76 ?

A I talked to them again in early '76.

Q Why didn't you have these gentlemen you talk to read Mr. Heins' testimony and your exhibits before you submitted it?

A That certainly would have been a good thing to do.

Q It sure would have.

A Time constraints were the main problem.

Q Well, you have had --

MR. ROSSO: Could I have the answer reread. I am having trouble picking up --

MR. CHERBY: He said that time constraints prevented him from doing what he considered a good thing; to talk to his experts before he submitted his testimony.

MR. ROSSO: I don't think that that is what he said.

Read it back, please.

(Whereupon, the reporter read the previous answer as requested.)

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BY MR. CHERRY:

Q Mr. Bickel, do you know what value is used in computing the price elasticity, what value for electricity?

A Do you mean what projected prices for electricity? What do you mean; what values for electricity?

Q What I am trying to arrive at so that I can understand whether or not your price elasticity studies are correct or not is: Is there some coefficient or value that you used in computing the effect of price elasticity on the usage of electricity.

A There is not a specific coefficient that I have used per se; no, sir.

Q Have you ever reviewed any studies that have suggested particular coefficients, having particular effects?

A Yes, sir.

Q And have any of those studies been used by you in connection with this testimony?

A No, sir. I found that the studies had price elasticities which ranged wildly.

Q How do you know that Mr. Climer's coefficient did not involve a wild range? You trust him?

A I believe in the integrity, honest and ability of Mr. Climer.

Q Mr. Bickel, how can I realistically find out whether or not the price coefficient, if any, used by

b8

Mr. Climer -- was used by Mr. Climer with an answer like that? Can you help me out?

MR. ROSSO: You can ask Mr. Climer.

MR. CHERRY: I know I could.

BY MR. CHERRY:

Q You were brought here to support this residential space heating study and you told me that -- now that you have been an expert for two or three years -- and you told me that you are sure that Mr. Climer has considered the study. You have two notebooks full and you tell me that you are sure that he used a good price coefficient study because you trust him. Is that your answer?

MR. ROSSO: I object. I think the question is argumentative. I think it is an unfair statement of the witness' testimony and really, it is just so totally unnecessary in view of the discussion we had on the record before.

If he wants to find that out, we will bring Mr. Climer here.

CHAIRMAN COUFAL: Is this just a number you are looking for, Mr. Cherry. I don't understand.-- Is it a figure that can be easily supplied. Is that what your --

MR. ROSSO: We would be glad to supply it to him if he would ask him for it.

MR. CHERRY: Mr. Chairman, the problem is that there is no figure that was used.

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What Mr. Bickel did is sit down and have a conversation in 1975 with a lot of people and that is the basis for this project. And if we got Mr. Climer here, he could not tell us what number was used either.

BY MR. CHERRY:

Isn't that correct, Mr. Bickel?

A Only Mr. Climer can answer that.

Q What is your best judgment, that Mr. Climer has a figure that he has used that is in some report?

A The price elasticity study as conducted by Consumers Power Company, I believe, was finished within the last month or so -- or scheduled to be finished within the last month or so. I have not seen, yet, any results from that study.

Q So that study is not the basis of your testimony?

A That particular study is not the basis of my testimony.

Q Well, but the Climer study that you say in part the basis of your testimony wasn't the -- a study at all but a series of subjective conversations with Mr. Climer; is that correct?

A I don't recall using the phrase: The Climer study.

Q Did Mr. Climer tell you about price elasticity in a conversation, or did he do calculations on a report and send it to you or was there some other method by which you

b10

determined that he used price elasticity?

A As I discussed earlier, it was arrived at in a discussion with Mr. Climer primarily based on his judgment, based on many years of working in the marketing research area.

Q Did he do any calculations in the course of that conversation?

A I am sure he did although I don't have copies of them.

Q Do you remember his using a calculation with a specific price elasticity coefficient?

A No; I seriously doubt that he would use a specific price elasticity coefficient, because a price elasticity coefficient, as you well know, is dependent upon many factors, not the least of which is the level of price.

Q Did you look at those factors in connection with your testimony?

A The factors that I just said do not exist.

Q No, the ones that are dependent upon --

MR. ROSSO: I am not sure what the question is.

BY MR. CHERRY:

Q Mr. Bickel, let's go back now:

The factors that you used in connection with conversations with -- conservation -- now include cross-elasticity? Price elasticity? And more efficient use of appliances; is that correct?

p11

A And advent of acceptance of the heat pump.

Q Advent and acceptance of the heat pump.

Anything else?

A Those are, I believe, the ones that I had mentioned this far; yes.

Q Anything else?

A No.

Q You had at one point gone over your books and pulled out a particular document and back -- came back and confirmed to me something or other is there.

Is there a document in that couple of volumes you have which can tell me what you included in the concept of conservation which you concluded would lower demand in connection with average residential space heat usage?

A Mr. Cherry, the specific documents that I was looking for were the notes that I made during some of my conversations with Mr. Climer and I have not been able to locate them. I don't believe they are in any of these books.

Q Were there any mathematical studies done that you have relied on other than the conservation study done in late '73, '74 and '75?

A We have attempted -- and when I say we I am talking of Consumers Power Company. Any particular input that I get from the rate research department, we have attempted to look at a series of price elasticities studies that were done

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but none of them seem applicable or acceptable or even reasonable by the people whose expertise lie in that area.

Q My Question was:

Did Consumers Power Company do any mathematical or arithmetic studies in connection with your testimony other than the study dealing with conservation for late '73, '74 and '75?

A Speaking for myself specifically; no. Speaking for the Company; I can't say. There are none that I am aware of.

Q I see.

You are the forecaster, or one of them, for the company?

A I prepare projected or proposed forecasts for review and approval by the forecast committee. That is the office that has responsibility for the forecast.

Q Did you say you prepare proposed forecasts?

A Yes.

Q Do you use any mathematical or arithmetic studies in connection with those proposed forecasts?

A What do you mean by studies?

Q Well, let me ask it another way:

Does your forecast essentially come down to your talking to a lot of people at the company?

A It certainly consists of gathering input from a lot of people at the company in conversation and in document

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form. I then take the information -- and again this is as a general rule the best information I can find available -- and make calculations and try to come up with something that looks reasonable to me, review it with the people from whom I got the information, try to get an overall consensus of something that looks reasonable to the knowledgeable people within the company before I present it to the forecast committee.

And on numerous occasions I will present alternate projections to the forecast committee, based on different input assumptions. And in the final analysis, as you know, we get down to the input assumptions.

Q Is it fair to say, Mr. Bickel, that the forecast which is the subject of your testimony here today is more or less a result of conversations with a lot of people at Consumers Power.

A It is fair to say that it is the result of my function as a focal point for relevant information that relates to long-range forecasts.

Q Did you answer my question, Mr. Bickel?

MR. ROSSO: Objection, I think the question was answered.

CHAIRMAN COUFAL: No; I don't think that was responsive at all.

THE WITNESS: Would you please repeat the question, Mr. Cherry.

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BY MR. CHERRY:

Q Is it fair to say that the forecast that you are supporting here today is more or less a result of conversations with people at Consumers Power?

A When you say conversations, are you talking about -- strictly verbal conversations, or written communication with feedback loops?

Q What is a feedback loop, Mr. Bickel.

A A feedback loop, to my way of thinking, will be when I get information from somebody, make some calculations that I think incorporates their information, give it back to them for confirmation, if this does in fact reflect --

Q Let me see if I can help you with this jargon.

Is it fair to say that the study which you are supporting here today was more or less based upon entirely subjective considerations, whether verbal, documentary or feedback loops.

A The forecast was based primarily on professional judgment and in fact, any forecast -- I defy anyone to show me a forecast that is not based on subjective judgment.

Purely statistical forecasts, for example, are based on an inherent assumption that the future will be similar to the past.

Q Would you answer my question, Mr. Bickel?

A The answer to your question is yes.

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I would prefer that the phrase be professional instead of subjective judgment.

Q Do you agree that they are the same?

A You can get a subjective judgment from someone who may not have a good basis for making a subjective judgment.

Q Here is what I am trying to get at, Mr. Bickel, and maybe I can do it this way:

I can turn around to Dr. Timm who is helping me and I can say: Dr. Timm, I would like you to tell me how much I am going to earn in 1980. Dr. Timm can go about that study in one of two ways. He can look at how much money I have earned up until now. He can compute what kind of clients I will have and what their probably rate will be. He can compute whether or not any expansion factors will affect my income. And he can put error bands on that and he can list very carefully his assumptions. I would call that, although it has some assumptions in it, a mathematical study.

Okay?

A Yes.

Q Or I can turn around to Dr. Timm and say: Dr. Timm, how much money do you think I will earn in 1980, and he can say: Well, you are a good lawyer. I have known a lot of lawyers and have been around a lot of them for five or 10 years. They usually pretty good when they are 45. I think you will make \$80,000. I would call that a subjective

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study.

A Yes.

Q Now using those as examples, would it be fair to state that the forecast that you have arrived at, that you are supporting today, was based substantially on the mathematical type investigation that I have described, or the subjective type investigation that I have described?

A The mathematical type.

Q Show me the mathematical projections that you made.

A I believe that's one of the things that we will be, at your request, preparing again for you.

Q You don't have them here?

A I have many of them, yes.

Q Show me the ones you have.

DR. LEEDS: Let me ask a question here. We have been talking about residential space heating. And now we are talking about forecasts that you are supporting today, and I am a little off as to which one he is answering with respect to. Can you straighten that out for me.

MR. CHERRY: Yes.

BY MR. CHERRY:

Q Did you interpret my question as residential space heating or the entirety of the forecast?

A The entire forecast.

Q If you restrict your answer to residential space

b17

heating, would your answer be the same?

A In my opinion, Mr. Cherry, you are getting close to a point where you are at one of the variables at which you need subjective judgment.

As you phrased your example, you said that Dr. Timm would make his projection, his mathematical projection based upon subjective judgments of these series of factors.

I would look at residential space heating average use as one of the key factors. And I think that it is largely based on subjective. It is then used in mathematical applications to arrive at the total forecast.

Q Yes, but that is like the computer code we talked about earlier. The mathematical application is multiplying input against assumed growth rate. That is subjective. That is just mathematics.

A That is a result of the prior subjective.

Q So that you would agree with me that the conclusions reached with respect to residential space heating were more or less subjective in nature as opposed to based upon mathematical studies; is that correct?

A I believe that I would have to have some input from Mr. Climer in order to know to what extent he utilized mathematical studies. Given the result that he gave, that he provided to me I would say that from my point of view, looking at it strictly as I did, it was in your definition, a

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subjective factor.

Q Did Mr. Climer tender anything to you that you can now recall that would fall into a mathematical study?

A No, sir; nothing that I can recall.

Q And nothing you reviewed in connection with your potential cross-examination here?

A That is correct.

Q If you thought that there was something relevant, I assume you would have reviewed it?

Is that correct, Mr. Bickel? When you made a selection when you came here about what you believed was most relevant to the questions you would be asked about forecasting; is that correct?

A Yes, sir.

Q And studies, as I have asked for, do not appear in the information you brought with you, is that correct?

A They do not appear; I admit that is correct, yes.

Q Or in the books you brought?

A The type of study, the mathematical study, to come with residential space heating there is some mathematics to it, because as I say, we --

Q But you get a figure and then you multiply it. But do you know what I am talking about?

A Mr. Cherry, we project the mix of residential space heating customers with a different average use for each

b19

type of residential space heating customer and apply mathematics to come up with a composite projection of residential space heating average use.

Q Now that you have agreed with me that the projection of residential space heating was subjective in nature, you will also agree with me, will you, Mr. Bickel, that the information from persons you regularly rely upon in connection with the very testimony you are supporting is late 1975 information at the maximum?

A Much of it is. Are we still talking residential space heating?

Q Yes.

(Pause.)

The answer is, Mr. Bickel? No such studies were brought with you in the documents you selected as relevant?

MR. ROSSO: I am afraid I have lost track again.

BY MR. CHERRY:

Q The information that the -- was at the maximum late '75.

MR. ROSSO: I didn't know there was a question pending.

MR. CHERRY: I think that was the question. The information upon which you base the residential space heating projection is at best last '75 information?

MR. ROSSO: I guess I have a problem here and I am

rb20 not just sure. Are we talking about the residential space heating projection, or talking about the conservation factor in the residential space heating projection? Are we talking about the total residential space heating projection? Or are we talking about the mix?

I think the record is extraordinarily confused, and I think the question is vague and I object to it.

MR. CHERRY: I am talking about the entire forecast for the residential part.

BY MR. CHERRY:

Q Is that how you understood me?

A I understand the question, yes.

Q And that is what we have been talking about.

A Yes, it is.

Q And now you did answer that in connection with that analysis, the information is at maximum late '75; correct?

A The information that I received from other persons?

Q Yes.

A That is correct; yes.

Q Tell me something, Mr. Bickel, how did you get your instructions to prepare your portion of the testimony here?

MR. ROSSO: I am sorry; I missed the question.
Can I have it read back?

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BY MR. CHERRY:

Q How did you get your instructions in connection with your participation in this testimony?

A Are you asking me who told me to prepare a forecast?

Q No; who told you to prepare what ever it is that your part plays in the Heins' testimony? How did it come about that you gave Mr. Heins this information, specifically for this hearing?

A He requested our most current forecast of projected electric sales and this was then provided to them.

Q If your most current forecast had been 1971, you would have given him that?

A My most recent forecast, the one that I have developed most recently, is in fact -- well, let me check the date on it -- late '76.

Q My question was:

If your most current forecast was '71, would you have given that to Mr. Heins in response to his inquiry?

MR. ROSSO: Objection. That is argumentative and irrelevant.

CHAIRMAN COUFAL: I think what he is trying to find out is was there a special forecast made for this hearing. And if that is what he is trying to find out, then that is relevant.

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BY MR. CHERRY:

Q Mr. Bickel?

A You are saying: If the latest forecast was prepared in 1971, would I provide that?

Q Yes; if he said: Give me the latest forecast. And the latest one was 1971, would you have given him that forecast?

MR. ROSSO: Okay. Now I object again.

I don't have any objection to the question that the Chairman propounded, but I certainly have an objection to the one that Mr. Cherry insists on asking. And I don't think that they are the same.

MR. CHERRY: I thought you overruled the objection.

CHAIRMAN COUFAL: I think it is a good objection. I thought that I was going to convince you to change your question, Mr. Cherry.

I will sustain that objection and allow a question that is along the lines of what I suggested.

MR. CHERRY: You can do that if you like.

BY MR. CHERRY:

Q What was the electric price elasticity coefficient used in your confirmation studies, Mr. Bickel?

A I believe I have answered that.

CHAIRMAN COUFAL: Please answer.

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BY MR. CHERRY:

Q For residential space heating.

A Please repeat the question. I think I have lost something.

Q What was the electric price elasticity coefficient used in your conservation studies in connection with residential space heating?

A I believe we confirmed earlier that I do not have a coefficient per se.

Q Do you have a range of coefficients?

A No.

Q How would I determine whether or not your projection was sound, if I was particularly interested in impact of price elasticity.

A I would recommend that you come up with a range that looks reasonable to you, make a forecast based on the information that we can provide you and see how significant the difference may be.

Q No. My question was:

How can I find out if you did a good job, whether I could do a job -- a good job?

A I guess by analyzing the resulted forecast of average use and seeing if it makes any sense to you. I don't see how there is any way that you can determine whether it is good, bad or indifferent without having a feel for

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what is good.

Q But if I were particularly interested on the impact of electric usage residential space heating, based upon price elasticity and I wanted to know how you factored that in, get some quantification, I couldn't do that, could I, based on your study?

A That is basically correct?

Q I couldn't do it.

And by the same token, you couldn't explain to me what impact price elasticity would have specifically in your judgment in the future?

A Well, we can certainly look back at the results of the conservation studies which are largely price elasticity studies as well -- or not maybe largely, but they include part of that.

And we can look at the results of the price elasticity study which I believe has been very recently completed by our rate research department.

Again, I want to make very clear the point that as I have said numerous times, forecasting is a continuum. I do not consider this particular forecast to be the best possible forecast. But I do consider it to be the best possible forecast that can be made at this time.

I think it can be -- and will be -- improved as we get more information and as we get more studies to apply

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the results of.

Q What experience do you have in finance, Mr. Bickel?

A As part of my MBA program, I took a couple of finance courses. I worked in a department called economic and financial planning for about two and a half years. My primary duty there, as I mentioned earlier, was the electric sales forecasting, although on occasion I did get involved to some extent with some miscellaneous financial studies.

Q Mr. Bickel, if you were a banker and asked to lend \$2 billion on the basis of that forecast, would you do it, or would you want more information?

MR. ROSSO: Objection. That is argumentative.

MR. CHERRY: I don't think --

CHAIRMAN COUFAL: Overruled.

THE WITNESS: That is a very strange question. Would you please repeat it?

BY MR. CHERRY:

Q If you were a banker, based upon your financial economic experience and you were asked to loan someone \$2 billion to build generating facilities based upon the projection that you have just given here today and are supporting, would you risk \$2 billion?

A Yes.

Q Of your own money?

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A Yes. I believe I would.

Mr. Renfrow said he would ask if I were going to be the lawyer on the other side. I guess he doesn't have very much confidence in his witness' answer.

BY MR. CHERRY:

Q Mr. Bickel, do you mean to say that as a financial man, you would not want to have any independent way of testing the forecast?

MR. ROSSO: I am sorry; I missed the question. Could I have it restated or reread?

BY MR. CHERRY:

Q I said, did you mean to say, as a financial man, you would not want to have any independent way of retesting the forecast?

A Perhaps I read too much into your question, Mr. Cherry. I interpreted that assuming that I was a banker with my current of information regarding this forecast.

Q But not working for Consumers Power; working for the bank?

A Yes, assuming that I own my own bank and have \$2 billion, I believe that I -- I have considerable confidence in this forecast, and yes; I would give them -- given my current status of information, be willing to do that.

Q Do you think that as a financial man or an economist you would like to know exactly how impacts of the

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various measures work quantitatively?

A What various matters?

Q Price elasticity, cross elasticity.

A Yes, and I think as a forecaster I would like to know much more about that, too. It is my professional opinion that we are reflecting price effects relatively well in our current forecast.

I hope we will do them better in the future, but we are doing about as well as we can now.

Q You really think so?

A Yes.

Q Why is Consumers doing this study in the rate department of price elasticity?

A Well, two reasons. One is that it is believed by the company to be a reasonable study to undertake. And secondly and perhaps more pertinent, it was ordered by the Michigan Public Service Commission.

Q Oh, I see.

This is not something that Consumers undertook on its own.

A I would not say it is something that Consumers Power would not have undertaken on its own, but it is a joint project with Detroit Edison, as ordered by the Michigan Public Service Commission.

Q When is that going to be completed?

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A To the best of my knowledge, it is completed now.

MR. CHERRY: May I have a copy.

THE WITNESS: I have seen no results on it.

MR. CHERRY: Where is it.

BY MR. CHERRY:

Q Mr. Bickel, how would I get a copy? Who has it?

A I would say that that question will best be addressed to Mr. Climer, because it was done --

Q I am asking you, Mr. Bickel. If you wanted a copy, where would you go?

A I would go to Mr. Climer.

Q He would have a copy?

A I sincerely hope so. I think he would be able to get one, if one is available, which I am not at sure of.

Q Do you have any knowledge of the parameters of that study; how it was done?

A Only very cursory knowledge. I was involved a little bit in the early stages, but no, I don't have any detailed knowledge of the study.

Q Has Mr. Climer ever made a long-range forecast for any sector which included price elasticity?

A A long-range forecast for any sector?

Q Residential space heating, commercial, et cetera; any kind of a long-range forecast; a narrow one or a large one, overall one which included price elasticity.

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A Mr. Climer's people based on some saturation studies, appliance saturation studies, did make a projection of residential, domestic average use and I believe the year was 1972. I don't know to what extent they considered price elasticity, but that would be the one that would be the highest probability, I would say, of having included price elasticity considerations. I am not sure.

Q You are not sure?

A That's correct.

Q But Mr. Climer was the one who you believed factored price elasticity into his subjective remarks to you?

A Mr. Climer and Mr. Baker, yes.

Q Has Mr. Baker ever done a long-range studies using price elasticity?

A Mr. Baker was very much involved in the study that was just completed.

Q I mean the Mr. Baker that you talked to in 1975 and '74 when most of this information was compiled; has he ever done a long-range study using price elasticity?

A I don't know.

Q Well, if you don't know if Mr. Baker did one and you don't know if Mr. Climer did one, how are you so sure Mr. Climer's subject remarks included price elasticity?

A Although I am not sure that either one of them

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could pull a report out of the book case which they had done, I do know from my conversations with them that they are both quite knowledgeable in that area and especially being concerned with market research, rate research, it is my professional opinion that they most certainly did do that.

I do definitely recall that the concept of price elasticity was discussed when we projected averages. The thing that I am really not sure of is how it was reflected in the projections, their subjective judgments or professional judgments that they made at that time.

Q If it was at all.

A If it was at all. But I personally believe very strongly that it was.

Q Because Mr. Climer and Mr. Baker are studious people?

A Well, they are very professional; they are very competent.

Q So at least you agree that price elasticity is pretty important?

A I don't think there is any question that price elasticity is very important.

Q Let's get the rest of the matters now, that --

CHAIRMAN COUFAL: Mr. Cherry, before we go on to another topic, can I interject here a minute -- and maybe this has all been answered, but I missed it, or some of it,

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I guess.

MR. CHERRY: I am missing a little, too.

CHAIRMAN COUFAL: The study referred to that was ordered by the Public Service Commission in Michigan was a joint study between Detroit Edison and Consumers, the point of which was what?

THE WITNESS: It was a price elasticity study to attempt to determine price elasticity in a -- different sub groups of customers. And I am not sure what the sub-grouping was.

CHAIRMAN COUFAL: Did it include forecasts of electrical usage in your service area?

THE WITNESS: To the best of my knowledge the intent of the study was to establish price elasticity as it currently exists and probably to try to project what price elasticities would be under different scenarios. But my knowledge of that study is not detailed enough to answer on it.

CHAIRMAN COUFAL: Does the Staff know anything about that study?

MR. ROSSO: Mr. Chairman, I believe the study is set forth -- or the fact that the study is taking place -- is set forth in the Environment Report somewhere, that we filed.

MR. RENFROW: As far as we know, it is not completed

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yet, Mr. Chairman.

MR. CHERRY: Mr. Bickel said it was completed.

THE WITNESS: Excuse me, Mr. Cherry; it was scheduled for completion in very late '76.

CHAIRMAN COUFAL: I think that if such a study exists it is a matter that ought to be investigated in this proceeding.

MR. RENFROW: Mr. Climer's instructions are, Mr. Chairman, as soon as that price elasticity comes -- study comes in, -- and we have referred to it in a number of the documents -- he is to get the study, indeed, as soon as it comes in and if these proceeding is going on, we will let you know, as one of the things that is ongoing for the Michigan area.

And if you would like the information I can double check with Mr. Climer -- I am going to have to do it right now.

CHAIRMAN COUFAL: I am not interested in finding out right this instance.

But, Mr. Hoefling, can I ask you to have your people review that work, too, if it is in existence, to help us out with whether or not --

MR. HOEFLING: When we get it we will look at it, Mr. Chairman, absolutely.

CHAIRMAN COUFAL: I mean; would you make some

effort to get it?

MR. HOEFLING: Yes, sir.

CHAIRMAN COUFAL: Okay.

DR. LEEDS: That is a lot different. We want to make sure that you do something to go get that study; okay?

MR. HOEFLING: I think we have a commitment from the Licensee when that study becomes available, to get it to the Board and the parties.

CHAIRMAN COUFAL: What I want from the Staff, is from the Staff.

MR. HOEFLING: We will make continuing inquiry as to whether the study is available and when it is available we will certainly look at it; absolutely.

CHAIRMAN COUFAL: I don't want to put all the burden on the Applicant here. I think the Staff has got a responsibility of their own to check into this, wherever the information may be available, and report to us about that.

Would you do that, please?

MR. HOEFLING: Yes.

DR. LEEDS: It would seem that since the study is being done for the Michigan Public Service Commission, that might also check with them, in addition to the Applicant -- I am sorry -- Licensee.

MR. RENFROW: Mr. Chairman and Dr. Leeds, as soon

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as that study is available, I will tell you and I will give it to you.

CHAIRMAN COUFAL: We don't mistrust you, Mr. Renfrow. We are not casting aspersions on Consumers Power Company. We are giving the Staff an exercise in performing --

MR. RENFROW: I have been asked a couple of times by the Staff where that report is and I have to tell them the same thing I am telling you; that it is not done yet.

MR. CHERRY: Mr. Chairman, for my purposes I would ask that the Board direct the Staff not to just wait for the study, because we waited for Mr. Heins' testimony and that didn't tell us very much, in my view.

But to physically go down to Consumers Power Company, the Staff, and assess the status of where it is, look at the information they have compiled. Maybe they can make some independent judgments instead of just reading the study, so that when they have their testimony they may be helpful.

And if they have to go to the Michigan Public Service Commission and gain independent information; you know --

MR. HOEFLING: Mr. Chairman, the Staff will rely on the representation of the Licensee.

CHAIRMAN COUFAL: Just a minute. Let Mr. Cherry finish.

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MR. CHERRY: A two or three-day field trip on an issue that is significant as this to gather information, I think, would be extremely helpful.

And I would put forward a motion that the Board direct the Staff to undertake during next week or at least before they testify, that study upon pain of putting the testimony in, some penalty.

MR. RENFROW: We welcome anybody from the Regulatory Staff to do what Mr. Cherry asks. If you read the ER you will find that it is being done in Illinois outside of the company, so I doubt that it would be very beneficial for him to come out there, Mr. Chairman.

MR. CHERRY: Could I have access to those people? Would you give me a letter and I will go to the place in Illinois, next week, and I will look at if the Staff doesn't want to.

The point is that I no longer am convinced that if we let a Licensee who has got a lot to lose by, for example, Dow being precise, tailor what it is we are going to get, we are going to not get all the information.

And it seems to me that the Board, particularly in light of today's cross-examination, ought to take some steps. And if this thing is in Illinois, one of the Staff's members should be directed to get the underlying information.

CHAIRMAN COUFAL: I still don't understand.

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MR. ROSSO: This study is being conducted not by Consumers Power Company directly but by independent consultants who have been hired to do the study. The study is being done in cooperation between Detroit Edison, Consumers Power Company and the Michigan Public Service Commission by independent consultants.

And as soon as it is done -- I mean it is fully enclosed in the Environmental Report supplement, we have told ev ery about it and we want it too. As soon as it come about, it will be another one of the pieces of information which on an ongoing, this continuum of a projection of long-term forecasting that Mr. Bickel was talking about before, it will be another piece of information which will helpful in making this and even more exact science than it now and we will provide it to everyone.

However, that study does not at all, or the lack of it at this point in time, does not at all impeach the use of a price elasticity factor in the study that was done.

MR. CHERRY: If you can find it.

I put a motion to the Board. I don't want to over step my bounds, but it seems to pretty clear that when you read the Staff testimony, what the Staff testimony has done is adopted without recomputing by-and-large, the Applicant's lead forecasts and generating capacity.

If the Staff had done its job, they would have

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known about the Palisades assumptions, what we found out today.

If the Staff had done its job we would have known about this and so it doesn't make any sense to wait for that testimony that is going to come in, which all it is going to tell us is that they read the FEA report and a couple of other reports and they read Mr. Heins' testimony and they think it is a good idea.

So I think that the Board should direct the Staff to do some work in this proceeding. That's all. Do it or don't. I don't care. I am going to try to make fools out of them, anyway.

(Board conferzing.)

Well, we have another subject we want to talk to the Staff about.

Dr. Luebke has something he wants to talk to the Staff about. Can we do that?

DR. LUEBKE: Earlier today some questions were raised on cross-examination posed by the Staff and by Intervenor counsel regarding steam generator tubes and remedies to steam generator tubes and consideration of their deterioration.

We would ask the Staff to update us on the technical background of the status of the steam generator problems. And a good place to look is the Prairie Island docket file, where the Appeal Board has been doing a lot of

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in this area.

And you, the Staff, have a person who I think should be quite familiar with the steam generator tubes. And would you bring that in the future, as prepared testimony.

MR. HOEFLING: You are interested in, Dr. Luebke, specifically in the Palisades steam generator tube problem?

DR. LUEBKE: In general and particularly Palisades, yes, because it has been made an important factor in cross-examination today.

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MR. HOEFLING: Well, I am not sure that the Prairie Island steam generator tube problem and the Palisades steam generator tube problem are the same.

DR. LUEBKE: There isn't any -- excuse me, that is probably --

MR. HOEFLING: I think the Prairie Island problem --

DR. LUEBKE: The Prairie Island case is being used in my view as a vehicle for gathering testimony and technical information on the state of affairs on steam generator tubes.

And I am just suggesting, I am giving the Staff a lead as to where to look so you don't have to start from scratch finding this information.

DR. LEEDS: What we are looking for, I think, in my mind -- at least I will speak for myself, is that we are looking to the Staff for an independent assessment of it.

DR. LUEBKE: Of what?

DR. LEEDS: Of anything they have assessed or they should assess, the tubes being one of them.

MR. HOEFLING: As relates to capacity, Palisades capacity over the next -- as relates to Palisades dereg?

DR. LUEBKE: I heard this morning there is going to be an inspection. There were certain predictions made about what might or might not happen during that inspection, and so on. There is a big history on steam

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generator tubes, other than Palisades.

Put this all together and it would be helpful to the Board in forming some judgment as to the importance of this factor.

MR. HOEFLING: One point of information.

For the Board's benefit the Staff has performed an analysis, at least a power analysis, and the Staff's analysis Palisades was not considered. So in that respect --

CHAIRMAN COUFAL: You mean you discounted Palisades completely in making your --

MR. HOEFLING: Yes, that is correct.

CHAIRMAN COUFAL: So you assumed that it was going to be down all during the period of your study?

MR. HOEFLING: No, we assumed that Palisades capacity would be available, which in the need for power analysis is the most conservative case that that capacity would be available and you would not need supplemental at full power.

DR. LUEBKE: At full power.

MR. HOEFLING: Right.

DR. LUEBKE: That means you have made an assumption that the sleeve which we as a Board know not much about, is a good solution.

MR. HOEFLING: We have assumed that sleeving would work and that the plant would be available for full capacity.

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DR. LUEBKE: Well we, the Board, are asking you to give us the technical background information of how you get there, and there are some other factors known as water chemistry, et cetera, et cetera.

I mean, there is more to steam generator tubes than sleeves.

MR. HOEFLING: Well, I think that the Staff has not assessed the tube sleeving solution.

The way we attempted to get around assessing the tube sleeving solution was to assume that the Palisades facility would be available, which is the worst case.

The Staff has not reviewed the tube sleeving proposal.

MR. ROSSO: Is it my understanding that what the Staff is saying is they did not look at the tube sleeving proposal but they simply assumed the worst case from the Licensee's point of view with regard to the need for power? That being that Palisades would be on line throughout this period and still concluded that the Applicant -- the Licensee, rather, did need the power.

Is that what my understanding is?

MR. HOEFLING: The analysis assumed that Palisades was available, and that the assumption Consumers made that there would be a derating of 5 percent a year, which of course would give rise to a greater needs, we did not employ

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that assumption in our analysis.

DR. LUEBKE: So there is a difference of position.

MR. ROSSO: No, sir.

I don't think that's right.

MR. HOEFLING: A difference in assumption.

DR. LUEBKE: All right, a difference in assumption.

We, the Board, would like more background information to better understand that difference of assumption.

MR. HOEFLING: Well, I think, Dr. Luebke, what I am trying to say is that the Staff has not evaluated the tube sleeving proposal, and doesn't contemplate evaluating it until Consumers comes in with an application for a --

MR. LUEBKE: I may not have been listening correctly this morning, but I thought that your cross-examination inferred that that was a good idea and that it worked, and that therefore your assumption was valid.

MR. RENFROW: Dr. Luebke, perhaps I can go through this thing.

Consumers Power Company has put twelve sleeves into the Palisades reactor. Part of the problem is, as we state, we don't know if the sleeves are going to work or not. For planning purposes we have have to make certain assumptions.

If this Board so requires, since it is our case, we will put on a man who is familiar with the Palisades steam generators to support our question that in planning

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purposes, that we may have to take Palisades out and the bases for us setting that forth.

We have put an assumption -- we have not said to the Staff in any formal proposal, that we propose to sleeve the tubes at Palisades. We have stated and will state that sleeving is a possible solution. We don't know if it is going to work yet.

So I think you are putting the wrong burden over there.

We will present in our testimony, possible fixes to Palisades that indeed may work. But then again, indeed they may not.

DR. LUEBKE: Well, as I see it, the Staff if it makes the investigation we are asking, may come to a similar conclusion, different from the one they have arrived at or implied this morning.

MR. RENFROW: Yes, sir.

But the problem with that is you are now looking at a safety question. And on the Palisades docket, which is not the question before this Board, the only reason that Palisades would come before this Board is for planning purposes:

Must you assume that the tubes will continue to degrade at the same rate they have been and thus you will lose power, or will you be able to stop the degradation?

And the answer to that is, right now, nobody knows.

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I mean, in the testimony that I would put on, would be that testimony. And we will do that. And I am not sure how they are going to answer the question to look at the other sleeves, because we can't.

DR. LUEBKE: I want more than sleeves.

I want water chemistry, the whole bag.

MR. HOEFLING: Dr. Luebke, the reason the Staff made the assumption that Palisades would be operating at full capacity was just to avoid having to get into questions of what Palisades' performance would be. Assuming that it operates at full capacity, has no problems with degradation, no problems with water chemistry, is the worst possible case from the Applicant's point of view as a conservative approach to the need for power.

Having made that assumption, we shouldn't have to be addressing questions that might go to increasing the need for the Midland facility by reducing the capabilities of the Palisades unit.

That is exactly why the Staff took that approach, so they wouldn't get into an elaborate discussion here, which is really not necessary once you take the position that Palisades is going to be available. Any other approach just increases your need for the Midland facility.

CHAIRMAN COUFAL: Have you got your testimony on file with regard to forecasting?

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MR. HOEFLING: Yes.

CHAIRMAN COUFAL: Well, this would be a good time to take a break. Fifteen minutes.

MR. CHERRY: I would like the Board to read the testimony of the Staff in light of this.

CHAIRMAN COUFAL: That is why I asked him, Mr. Cherry.

MR. CHERRY: Because I made some remarks about the need for a power case about Consumers, and I will make some about the Staff.

The Staff has copied the testimony of Mr. Heins, a substantial part, has done no independent analysis and their major source of review has been --

MR. HOEFLING: Mr. Cherry doesn't know what he is talking about.

MR. CHERRY: I know what I am talking about.

MR. HOEFLING: You don't know what you are talking about.

MR. CHERRY: And reading an FEA study and and PTC study, and talking on the telephone to Mr. Heins has been the extent of their analysis.

MR. HOEFLING: I hope you develop all that on your cross, Mr. Cherry. I am going to hold you to it.

MR. CHERRY: You can be sure I will.

MR. HOEFLING: You can't do it.

CHAIRMAN COUFAL: All right.

We will take fifteen minutes.

(Recess.)

end 11

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Begin 12

MR. CHERRY: I want to now complete my list as to the residential space heating.

MR. HOEFLING: Excuse me. If I may interrupt, Mr. Chairman, on the Palisades question, the Staff still isn't clear exactly as to what the Board wants.

CHAIRMAN COUFAL: Well, we'll tell you. We're saving that.

MR. HOEFLING: Okay, fine. I'm sorry, Mr. Chairman.

DR. LSEDS: We'll clean it up next week.

BY MR. CHERRY:

Q In connection with the residential space heating part of the forecast, you told me, I believe, that in those factors you observed with the lower demand you included conservation, which included price elasticity, cross-elasticity -- although you kind of qualified those factors, more effective usage of appliances, and the advent and acceptance of heat pumps.

Are there any others?

A I'm sorry, the third one, would you please repeat what you said?

Q The advent and acceptance of heat pumps would not be part of conservation?

A That was the fourth one. The third item?

Q More effective -- efficient use of appliances.

2

A Yes, I think the intention there is not only more efficient use of appliances but also the advent and acceptance of more efficient appliances--more efficient refrigerators, et cetera.

Q Is there anything else in the conservation section?

MR. ROSSO: Excuse me, Mr. Chairman.

Mr. Cherry borrowed Mr. Bickel's books during the break, and I think it would probably be more helpful for Mr. Bickel to have them while he is testifying. I wonder if he could return them to Mr. Bickel at this time?

MR. CHERRY: I have a couple of questions about it. If there is a question for which you need the book, I will return it to you.

Do you need the book to answer my question, Mr. Bickel?

MR. ROSSO: Mr. Chairman --

CHAIRMAN COUFAL: They're his books, Mr. Cherry.

MR. ROSSO: They are. They're his books.

MR. CHERRY: I want to ask him some questions about some documents in there. If he needs the books, I'll give them back to him.

CHAIRMAN COUFAL: You mean you're going to refer to the books?

MR. CHERRY: That is correct.

t 3
MR. ROSSO: He could refer to the books just as easily if they're sitting up there, though, Mr. Chairman. I mean, the witness should have the liberty of checking through to see if there's a particular document that would refresh his recollection.

They're his books, and they should be with him.

CHAIRMAN COUFAL: I agree with you. If he wants his books, he should have his books. If counsel wants him to have his books, he should have his books.

MR. CHERRY: Do you need the books to answer the questions?

CHAIRMAN COUFAL: Just give him the books, Mr. Cherry.

MR. CHERRY: I will; but I want to know if you need the books to answer the question, Mr. Bickel?

MR. ROSSO: May I have the books, Mr. Cherry?

MR. CHERRY: As soon as I get the answer.

MR. ROSSO: He will not answer the question until he gets the books.

MR. CHERRY: Does he need the books to answer the question that I just asked him?

CHAIRMAN COUFAL: What was the question you just asked him?

MR. CHERRY: Have you now told me all of those factors that fall within the conservation portion of those

blt4

factors which you contend lowered demand in your examination of residential space heating in the load forecast?

THE WITNESS: To the extent of my recollection, yes. I believe we've covered the list rather well.

MR. CHERRY: Do you need to look at the books in order to give me a complete answer?

THE WITNESS: I would like to have the books back. I think I've completed the answer to that question.

MR. CHERRY: Okay. Whenever you need the books, I'll give them back to you.

CHAIRMAN COUFAL No, Mr. Cherry. You don't hold the man's books hostages. Give him the books.

MR. CHERRY: Am I not entitled to use these during my cross-examination?

MR. ROSSO: You may use them by going up to the table and referring to them.

MR. CHERRY: I want to mark some exhibits out of them. (removing documents from book).

(Documents (books) handed to the witness.)

BY MR. CHERRY:

Q Now, Mr. Bickel, what other factors besides conservation did you assume would have a lowering effect of usage in the residential space heating portion of the load forecast?

MR. ROSSO: Mr. Chairman, I only have one question,

blt 5

1 and that is: do any of the documents currently in Mr. Cherry's
2 possession, those that he pulled out from the books, refer
3 specifically to the question which he has just asked the
4 witness?

5 MR. CHERRY: No.

6 MR. ROSSO: Okay.

7 THE WITNESS: Is there some reason that you're
8 holding them?

9 I guess I have answered that question.

10 BY MR. CHERRY:

11 Q You answered what was in conservation. Is that
12 all? I mean, are there any other factors?

13 MR. ROSSO: Objection. The question is vague.
14 I don't know --, any other factors to what?

15 CHAIRMAN CUFAL: Do you understand the question,
16 Mr. Bickel?

17 THE WITNESS: I thought I had answered it twice.

18 CHAIRMAN CUFAL: Do you understand the question?

19 THE WITNESS: I guess not.

20 BY MR. CHERRY:

21 Q Mr. Bickel, what I started out was to try to get
22 a listing of those factors which you looked at with connection
23 with the residential space heating portion of the load fore-
24 cast in which there would be lowered usage.

25 A Yes.

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Q So that in 1984, the relationship between cars and trucks as vehicles has increased, that cars have been -- become a greater percentage of vehicles.

A I haven't made that calculation.

I will make the calculation.

(Pause.)

For 1976, we are saying that cars amount to 78.6 percent. For '84 we are saying that cars amount to 80.8 percent.

Q 1976?

A 1984.

Q 80.8?

A Yes.

Q '76?

A 78.2.

Q Do you know the relative cost of energy for cars and trucks?

A I do not know. Again, as I mentioned earlier, the energy consulting services department has done a fair amount of work on that.

Q Mr. Bickel, do you know whether it costs more in terms of energy to make a car or a truck?

MR. ROSSO: Mr. Bickel, were you finished with your previous answer?

THE WITNESS: No, I wasn't.

rb2
MR. ROSSO: Mr. Chairman, may he be allowed to answer his previous question?

CHAIRMAN COUFAL: Finish your previous answer.

MR. CHERRY: Mr. Chairman, part of the difficulty is that I do not get an answer to the subject of cross-examination. I am told that someone in Jackson, Michigan has got something and then the information goes in the record. We have had Mr. Heins talk about information that we could have gotten from a cab driver so far as I know, and it comes in the record. How meaningful is that?

I asked this man if he knows. He is the man who is tendered. I am then going to ask him if it is in his backup information and I want to know the relationship to it.

If he wants to answer that there is some other gentlemen -- I am entitled to ask my questions. Cross-examination is an art form. It is not a slovenly, garbage project. I am entitled to get my question answered, and I am entitled to interrupt the witness if he is not answering my question.

MR. ROSSO: Mr. Chairman, I thought I had a ruling that the witness could finish his answer.

CHAIRMAN COUFAL: Yes, I did rule that, Mr. Rosso.

THE WITNESS: The point that I was making, Mr. Cherry, is that certainly studies have been in the past to

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try to correlate kilowatt hours per vehicle, car and truck et cetera, and to the best of my knowledge, none of these have been anything that the energy consulting department was ready -- willing to accept or release as being valid. They have had a great deal of difficulty in attempting to determine that particular relationship.

Consequently, that is not the way the energy forecast -- that is not the way that we project sales to General Motors Accounts, per se.

BY MR. CHERRY:

Q In your judgment, Mr. Bickel, does it take more electrical energy to produce a car or a truck?

A I would certainly anticipate that it would take more to produce a truck. However, I am sure that there are some mini trucks that could be put together with less than some of the larger vehicles.

Q Now you said that you had a regression analysis equation for energy consumption. Do you remember mentioning that?

A Yes.

Q What are the independent variables to that equation?

A The independent variables are General Motors vehicle and time.

Q Are there any others?

arb4

A. Those are the only two independent variables.

Q. Now what I want you to do is make the computation you made for 1976 on usage per vehicle where you arrived at 598.7 for 1984.

A. Without double checking that, 686.4 kilowatt hours per vehicle.

Q. That confirms what I got.

Now you have therefore projected per vehicle electric energy usage per vehicle for GM to increase by what percent?

MR. ROSSO: I think I am going to object to that question.

Over what period of time or -- and between which two reference points in time?

MR. CHERRY: The ones we just did, Mr. Rosso.

MR. ROSSO: So the question is between the reference point of 1976 and the reference point of 1984, you want to figure out what the percentage increase is?

MR. CHERRY: I would never have asked the question so artfully, but that is the sense of it.

THE WITNESS: Over that eight-year period, the kilowatt hours per vehicle as calculated in the way we just have it, increases by a total of 14.66 percent.

BY MR. CHERRY:

Q. 14.66 percent.

b5

A Yes, sir.

Q But the mix that we have computed would indicate that the average use per vehicle would be down; wouldn't it, because we have got more cars and your notes indicate that General Motors is going to smaller cars, therefore, less energy per car; is that correct?

A I am not -- these notes were in my book. I am not sure who wrote these, quite frankly.

Q Do you think that they are correct or incorrect copies?

A I would have to evaluate them and review them to see. I know that there has certainly been a trend for -- towards increasing kilowatt hour per vehicle. It has been ongoing. And this sort of a progression does not surprise me at all.

Q Didn't you do a load management study July of 1976 where you contacted General Motors and they told you that their overall use of electrical energy was going to go down, or is that someone else's department?

MR. ROSSO: If there is a document that is available on that, perhaps that could be shown to the witness.

MR. CHERRY: I will show it to him.

BY MR. CHERRY:

Q I want to know if you know of a study done by a load management committee where General Motors was contacted

ar6

and they told you that their energy usage was going to go down? Do you know of such a study?

A I do not recall having seen that study.

Q Per vehicle, that it was going to down, usage was going to go down per vehicle. Do you know of such a study?

A No, I don't. This is what General Motors has told us?

Q What you concluded?

What you concluded prepared by the rate research department of Consumers Power Company. Do you?

A Concluded what?

Q Have you considered such a study in your projection you just discussed; energy usage per vehicle in your forecast for General Motors.

A I believe I just responded that I do not recall having seen that study.

MR. CHERRY: Could I have this marked as 21, please? It is entitled Load Management Survey for Large Commercial Customers -- Commercial and Industrial Customers, prepared by Consumers Power rate research department, project 7613, July 1976.

(Whereupon, the above-mentioned document was marked Intervenor's No. 21 for identification.)

MR. CHERRY: I have selected excerpts from the

b7 - study although it is available in its entirety. I have Xeroxed the cover page, plus the section entitled General Motor corporate responses to Consumers Power Company Electric Load Management Survey, which is 10 pages.

The GM response is included in its entirety.

MR. ROSSO: So this is clear on the record; these are excerpts from the study? But not the study as a whole; is that correct?

MR. CHERRY: No; they are the entire responses by General Motors. The study covers other large commercial and industrial customers, but I have included everything that relates to General Motors. That was a document that was produced by Consumers Power Company, number D-400-016.

MR. HOEFLING: Mr. Chairman, I don't think we have ever gotten an identification of the four exhibits that went before this.

MR. CHERRY: I know that.

DR. LUEBKE: Exactly; we are getting a bunch of loose papers.

MR. CHERRY: I will do it in time. If Mr. Rosso hadn't interrupted me, I would have done it already.

MR. ROSSO: But if I hadn't, the witness would not have had those specific working papers in front of him which related to the questions you were asking him.

CHAIRMAN COUFAL: This doesn't get us anywhere.

arb8

MR. CHERRY: It sure does. I think so. I am pleased with this week.

BY MR. CHERRY:

Q Have you ever seen that exhibit, 21, before?

A To the best of my knowledge, I have not.

Q Would you review it and tell me whether or not it supports or contradicts your projection of electric energy use per vehicle by General Motors during the period 1976-84.

(Pause.)

Have you had sufficient time to look at the document, Mr. Bickel?

A I have not yet found any section that I thought you referred to, which gave a projection of kilowatt hour per vehicle and trends thereof.

Q My question was:

Perusing Exhibit 21 and the information that was supplied to Consumers Power Company's rate department by General Motors, does it tend to support or contradict the increase in electrical energy per vehicle use which your forecast predicts?

A First of all, I would like to point out that this summarized -- this is summarized material provided by General Motors and it certainly is not -- and it certainly does not attempt to present a Consumers Power position, but

b9

it obviously does have very noble goals for conservation.

Q Does it tend to support or tend to contradict the projection of electrical energy per use -- use per vehicle that you projected?

MR. ROSSO: Mr. Chairman, I am going to have to object, because what was computed here was for the year 1976 and for the year 1984. Those are two data reference points. I have no idea, or does anybody in this room, whether those two are representative in terms of a long-term trend.

And he keeps describing this as a trend and I am not sure that is accurate, and I object.

BY MR. CHERRY:

Q Mr. Bickel, if you want, you can go ahead and compute the rest of them. They just go on up.

But I want to know if, based on your perusal of that report, it has in your judgment what is contained there, a tendency to support or contradict that load forecast you made for General Motors on energy use per vehicle.

A I am not certain without studying it in more detail, that you can really say either one.

Granted, they are trying to conserve as much as they can, but it is possible that the kilowatt hour per vehicle could still go up. You have to recognize that there has been a pretty healthy trend, growth trend, in kilowatt

arb10

hour sales to General Motors Accounts.

Q Have you ever heard of the Energy Policy Conservation Act?

A I believe I have. I am not particularly familiar with it.

Q Have you ever heard of the Federal Energy Agency, Industrial Energy Conservation Program?

A Again it sounds familiar but I am not particularly familiar with it.

Q Do you know commitments in General Motors and the other members of the transportation industry group in the United States committed to the FEA's target date in reduction of electrical energy uses per output up until 1980 ?

A I know that GM has frequently had targets of making such reductions. I am not sure that they achieve them.

Q Well, doesn't the report you just read say they achieve them, at least through 1976?

A You are talking now about reduction in electrical usage?

Q Yes.

How does that correlate with kilowatt hour per --

A I am not sure --

Q Because they say in the report that electric use

bill is part of their production cost. They say reducing electric usage where possible has always been an important part of every energy conservation program. "Throughout '75 GM has reduced its total energy consumption 17.7 percent, compared with 1972. Approximately 10 percent of this amount is due to the energy conservation program," et cetera.

"A corporate goal of 5 percent savings in total energy use suggested for production of major vehicles has been established for '76."

Now what I am asking you is whether or not you considered in connection with your forecast the information that Consumers Power rate company had. I take it the answer is no.

A The answer is no. I have not seen the document.

Q And you have not considered the commitment made by the transportation industry to the Federal Energy Administration with respect to a percentage of energy consumption per output by 1980?

A That's correct.

Q Do you know what that figure is?

A No, sir.

Q Would it surprise you if I told you it was 60
67 percent?

A 67 percent reduction?

Q Yes.

12
MR. ROSSO: Excuse me.

BY MR. CHERRY:

Q In energy per unit of output?

A I suppose it wouldn't surprise me to hear that as an objective, having seen on a cursory view some of the other unattainable objectives that General Motors has had in the past.

Q Would you consider that, if General Motors has committed to the Federal Energy Administration pursuant to the law passed by Congress and pursuant to sworn statements, would you say that ought to be considered in your forecast of what they are going to produce?

MR. ROSSO: I must object to the question as totally without foundation in the record. None of this is in the record. I have no idea whether any of those statements are true or not.

Now if he is willing to state that as a hypothetical question, that is one thing. But if he is going to try to put statements of fact in the record in his own question, that is totally improper.

MR. CHERRY: Can we have a ruling, please?

CHAIRMAN COUFAL: I took the question to include those assumptions. Is that the way it was intended.

MR. CHERRY: Yes.

CHAIRMAN COUFAL: All right.

013
You man answer, then.

THE WITNESS: Assuming that those are just assumptions and not necessarily --

CHAIRMAN COUFAL: Assuming what he says is true; do you think you should have considered them?

THE WITNESS: I would say that if what he said is true, I would certainly very much like to have been aware of it when I made that forecast. I am not sure of what the impact would have been, but I think it certainly would have -- it certain would have --

BY MR. CHERRY:

Q You don't know what the impact would have been if General Motors is committed to reduce its energy output per unit by 67 percent over 10 years; you have no idea what the impact would be?

A I have no idea what the realistic reflection of that goal would be on a projected sales to General Motors.

Q If I told you to assume that that would be true, that in fact GM would attain that goal, how would that impact on your forecast?

A Clearly, that would reduce it substantially.

Q It would make it arroneous?

A It would make the forecast erroneus?

Q Yes.

A It would make the forecsst somewhat; yes.

b14

Q Now do you not believe that we are in a period of time when energy conservation is becoming not only voluntary but mandatory?

A Mandatory in what sense, Mr. Cherry.

Q We are going to pass laws to prevent utilities from not helping us. We are going to force people to use less energy by passing laws to mandate more efficient use of appliances. We are going to make taxes on inefficient use of appliances.

I am talking about a whole kind of trend that is going on both legislatively and voluntarily.

Are you aware of that trend?

A I am aware that there are certain rumors in the directions which you have discussed.

Q Now have you considered that trend in your projection of load forecast?

A In the past, that has showed up --

Q Have you considered it in this load forecast? That trend; that is my question. Mr. Bickel, you can give me a speech after you answer my question.

A Yes; in the sense that -- this load forecast is based to some extent on previous load forecasts which were reviewed by the forecast committee, which were reviewed in great detail as per assumptions with relevant people who were familiar with the attempts being made to do this sort

arb15

of thing that you described.

Q I thought that your study was a verification of the executive review study done by -- what was that word? Probability encoding?

Now you are telling me that your study culminated and they are approving. Which is it?

A I don't understand your statement.

Q Mr. Heins said that the Bickel analysis was a confirmation of an independent study done by the executive energy review committee.

A That is correct.

Q Is it correct?

A Yes.

Q You are certain of that?

A Yes.

Q Does Midland 17 come from your books and records?

A Yes, it does.

Q And is that part of the work papers on the Bickel study?

A Yes, it is.

Q Okay.

So the Bickel study says that the basis for projection of annual growth includes judgment of energy forecast executive review committee; correct?

A Mr. Cherry, I am getting back to the continuum

arbl6

point. We did not start forecasting in September of this year. We have been forecasting for many years. The judgment that I am talking about here is a judgment that has been expressed in past years, not necessarily what the state of information was of each member of the forecast committee when he was -- this year.

Q Mr. Bickel, when Mr. Heins was on the stand, he led me to believe very clearly that the executive review committee is studying pretty contemporaneously with the preparation of the testimony.--

And then you went ahead and did a confirmation of it.

As a matter of fact, when Mr. Rosso called me the other night and gave me the changes in the Heins testimony, I specifically believed that there was a study done by the executive forecast review committee here, contemporaneous with his testimony and then a Bickel confirmatory study.

A Yes.

Q That isn't what occurred at all, is it?

A IT certainly is what occurred.

Q If you would look at all of the machinations over a period of two or three years --

A You are proposing that I completely forget anything that was ever done in the past, and start over and do

barbl7

a totally new forecast and use totally new techniques. I propose that that is an inappropriate way to proceed.

Q When did the energy review committee project the load forecast that you confirmed by your study?

A That was during September of 1976?

Q They did that study?

A Yes.

Q And you confirmed that forecast after September 1976?

A Yes.

Q Using data that in large part goes back to '72, '73 and '74?

A Primarily 1975. Yes.

Q Early 1975.

Do you know the factors that the energy executive review committee used?

A I have them, yes. I have seen summaries. I was not involved, now, in any of the probability encoding sessions. But I have seen summaries.

Q Now the probability encoding session is just a fancy word for conversation; isn't it?

MR. ROSSO: Objection. Argumentative.

CHAIRMAN COUFAL: Overruled.

THE WITNESS: Most assuredly not.

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BY MR. CHERRY:

Q What is probability encoding?

A A probability encoding session is -- it is verbal in the sense that it is a discussion, but it is an attempt of one party to determine what another person's views are as to the probabilities of certain events and based on certain assumptions.

It is not just a casual discussion where you say: Well, do you think 50 percent probability of this or what. It is a portion of decision analysis and it is a rather well documented means of attempting to glean information from knowledgeable people, not by asking what you think the probability is of this event by asking them a series of questions in which they define scenarios, which then enables you to draw a probability curve.

Q Do you know a gentleman by the name of Denton?

A Yes, I do.

Q Who is he?

A He is our corporate economist.

Q What?

A The corporate economist of Consumers.

Q A pretty smart guy?

A I believe he is.

Q When he makes statements about economic prospects over the next 10 years, are they regarded as fairly substantial.

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in the company?

A Mr. Denton's approach -- the answer to your question is yes. But Mr. Denton's approach is to attempt to get a consensus of the leading economists views. He is very good at collecting information and collecting projections made by other economists, assimilating them and coming up with a consensus projection.

Q If Mr. Denton wrote a memorandum saying these are my views, would you expect that what he really did was collect someone else's views, or would you believe him?

A I would believe that those are his views, based on his review of the views of other people and his own personal beliefs.

Q We know, at least if Denton says something we can take it as pretty good economic information insofar as Consumers is concerned?

A I believe so.

Q What did he think about power production over the next 10 years; do you know?

A Yes. The projections that I provided you with earlier are -- pardon me -- the projections that are contained in -- I believe it is Exhibit 11 -- were made by Mr. Denton.

Q Did Mr. Denton believe that energy use per vehicle would go up or down over the next 10 years?

A I don't know.

harb20

MR. ROSSO: Again, Mr. Chairman, as Mr. Cherry has reference to a document I submit it would be much fairer to the witness to show him the document before asking the question.

MR. CHERRY: Why not? This man looked at them and talked to him.

BY MR. CHERRY:

Q Have you ever seen Exhibit 22 before?

A Yes, sir; I have.

Q Now turning to the second page, last paragraph and tell me if you ever discussed the concept there with Mr. Denton where he said that he projects that more cars will be assembled in suppliers' factories, all of which have a tendency to be growing up outside Michigan, which would therefore tend to lessen General Motors' consumption of energy, both absolutely and as use per vehicle.

(Pause.)

A Could you please repeat the question, sir?

MR. CHERRY: Could we have it reread, please?

(Whereupon, the reporter read the pending question as requested.)

THE WITNESS: I think it is important to recognize, Mr. Cherry, that there are many components and many different factors in producing cars. The engine can be produced in one location; other components can be produced

21 In other locations. And then they might very well --

Q You haven't answered my question. You go ahead and when you get done you can answer my question.

A I believe I just did.

Q You go ahead and you finish your statement and then I will answer my question.

MR. ROSSO: Do you remember where you were or do you want it read back?

THE WITNESS: That's all right.

Let me make a statement. As you will recall, this was a probability encoding session, and I am sure that this view was in fact reflected on the individual probability curves as generated by the members of the energy forecast committee.

BY MR. CHERRY:

Q How do I know that this was a probability encoding session? This is just a memorandum to Mosley with carbon copies to Boris, Parker and Bickel, none of whom -- not all of whom were on the executive review committee, as told to me by Mr. Heins.

A That is correct.

Q So that this is not a probability encoding session.

A That is -- no, but I believe that that -- and I guess there is no reason you would know this -- I believe that that particular document was distributed to the members

barb22

of the forecast committee some time prior to the coding session.

Q I am not so sure how you would know that. Did you participate in the coding session?

A I report to Mr. Mosley.

Q Did you participate in the coding session?

A As I said earlier --

Q Did you participate --

A I did not.

MR. ROSSO: Mr. Chairman --

CHAIRMAN COUFAL: Gentlemen --

MR. ROSSO: Mr. Cherry --

MR. CHERRY: Don't raise your voice to me.

MR. ROSSO: Don't raise your voice to me.

CHAIRMAN COUFAL: All of you just sit down.

BY MR. CHERRY:

Q My question was --

CHAIRMAN COUFAL: Now I don't know where we are and where we are going but let's everybody calm down. If you have a question; put the question.

BY MR. CHERRY:

Q Did you participate in the coding session?

A I did not.

Q Therefore, you were not around when any documents were distributed; is that correct?

23
A I received carbon copies of some of the documents and I believe -- I am going from memory -- I believe that when Mr. Mosley sent out material to the forecast committee members telling them that this was going to take place, I believe he attached that document. I am not certain, but I believe he did.

Q Did you take into consideration what Mr. Denton said about no increase in the state population within the foreseeable future in your load forecast, or did you predict an increase in population?

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A We are projecting an increase in state population.

Q Even though your economist said that the best available information says no change in state population?

A I'm not certain that he said exactly what he intended there.

If you assume that he did, then you would have to say -- I am not utilizing that information.

Q You are now going to tell me that Mr. Denton didn't mean what is literally on a piece of paper that he wrote?

A I won't try to interpret what he writes.

Q Because of something Mr. Mosely might have told you took place in a session that you didn't go to.

Well, you save that one for later, will you.

MR. ROSSO: I move that that entire diatribe be stricken.

CHAIRMAN COUFAL: Strike the part that said, "We'll save that for later," will you.

Now Dr. Leeds says that --

DR. LEEDS: I am not sure we got an answer to the question that Mr. Cherry asked you about car production in the State of Michigan. And I thought you were going to go back to make sure we got that answer.

MR. CHERRY: Well, I am running a bit out of time, but pose the question and I'll ask it.

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DR. LEEDS: No, it was your question about the last paragraph in your exhibit with respect to car production in Michigan.

MR. CHERRY: Yes.

BY MR. CHERRY:

Q I believe I asked you if you factored in Mr. Denton's views that there would be a decrease of car production and energy usage per vehicle.

And you then told me that you didn't think those were Mr. Denton's views, and that is why I stopped.

MR. ROSSO: No, I object to that.

That is a mischaracterization of the testimony.

CHAIRMAN COU AL: Well, what is the pending question, do you know, Doctor?

DR. LEEDS: I thought it was floating in the air unanswered.

Could we get an answer to that one?

MR. ROSSO: I am not sure of what the question is. If you will pose it, we will try to answer it.

DR. LEEDS: Well, let me just ask you very simply:

Did you consider any comments made in the last page of Intervenor's Exhibit, last paragraph of the second page of Intervenor's Exhibit 22, expressing a view that perhaps increases in production would occur outside of Michigan?

mm3

MR. ROSSO: Dr. Leeds, he doesn't have a copy of that. I would like to show him yours.

DR. LEEDS: Okay.

(Handing to witness)

THE WITNESS: Yes, sir. The possibility of increased production outside of this State certainly has been discussed before the forecast committee meetings, and it is considered to be a very real possibility.

DR. LEEDS: Excuse me for asking it once more.

Did you consider that in your load forecast?

THE WITNESS: Yes, I believe I did.

DR. LEEDS: Explicitly?

THE WITNESS: Not explicitly.

But it was a subjective consideration that went into the production of General Motors sales, kilowatt hour sales to General Motors.

DR. LEEDS: Does your projection show an increase in the number of cars produced or a decrease, or what?

THE WITNESS: It shows an increase in the number of cars produced as prepared by Mr. Denton.

DR. LEEDS: Thank you.

BY MR. CHERRY:

Q When did Mr. Denton prepare that projection?

Late 1975?

A The projection that I have used in my confirmatory

study?

I believe the date was October 27, 1976.

Q Why do you say it was October 27, 1976?

A Because that is the figure that sticks in my mind.

Q Do you have the projection?

A Yes, I do.

MR. ROSSO: Would you let him describe for the record, what he is showing you?

THE WITNESS: I am showing him Mr. Denton's economic projections prepared on October 27, 1976.

BY MR. CHERRY:

Q Mr. Bickel, you told me that the independent variable in the consumption equation that was used in connection with production of General Motors power forecast --

A Yes.

Q -- was vehicles and time?

A Yes.

Q Okay.

Would not Exhibit 21, the load management, suggest that another independent variable should be price?

A Price is certainly one that would be very reasonable to attempt to tie into their regression model.

Q Did you do it?

A I did not do it this year.

We have attempted to tie price and other factors

mm5 in the past, but we have not come out with as good a statistical fit as using General Motors vehicles and time..

Q So that price has not been considered at all in your General Motors production?

A No, sir. That really isn't correct.

Q Not considered as a variable, an independent variable in your regression equation?

A That is correct.

Q But you think it would be reasonable to do so?

A I think it would be reasonable to continue to analyze that and see if we can improve our regression equation.

Q Do you believe you would get a more or less sound result if you added as one of the independent variables in your regression equation, price?

A If you had a good statistical fit, and most significantly, if you had a good projection of that independent variable, then you should get at least as good, probably a better projection.

The key, of course, as you well know, is that any time you have independent variables, you must then project them in order to project the dependent variable.

Q Would you identify Midland Intervenor's Exhibit 18 as coming from your workpapers.

(Handing document to witness)

mm6

Would you describe it?

A This is a projection of kilowatt hour -- well, megawatt hour sales and megawatt demand used by Dow in total, generated on their own generating equipment and purchased from ConsumersPower Company.

Q Was the Midland Intervenor's Exhibit 13 used in any way in your forecast?

A Yes, it is.

Q How is it used?

A It was used as a direct input.

Q Okay.

So that if it is wrong, to the extent that it has impact, then the forecast is incorrect?

A That is correct. By the same percent, same amount.

Q Can you identify Midland Intervenor's Exhibit 19 --

(Handing document to witness)

-- as coming from your workpapers?

A I believe it did, yes.

Q Well, I took it out of your book.

A Well, then it must have.

MR. ROSSO: We will stipulate that it comes out of the working papers.

BY MR. CHERRY:

Q Now can you tell me who put these -- this is a handwritten page entitled "Industrial Sales Growth."

mm7

1 A Yes.

2 Q Is this a backup for the Industrial Sales Growth
3 projection?

4 A No, those are miscellaneous comments that
5 somebody, I believe Gordon Heins, but I am not certain, put
6 together.

7 Q Now Mr. Heins changed a couple of numbers in his
8 testimony the other night, and there is a circle around 5
9 percent, and then it is written in hand 5.5 percent --

10 A Yes.

11 Q -- as the amount of the change in testimony
12 increase that was.

13 Is that correct?

14 That was made two days ago in the testimony.

15 Do you know if Mr. Heins did that just a couple
16 of days ago?

17 A No, I did that.

18 And I did that--

19 Q When did you do that?

20 A Sometime subsequent to November 30th, 1976.

21 Sometime after that.

22 Q Why did you do it?

23 A Because we had revised our projection of industrial
24 sales and this is now the correct number.

25 Q How did you do it?

1 MR. ROSSO: Which is now the correct number?

2 THE WITNESS: The 5.5 percent growth is now the
3 correct number.

4 MR. ROSSO: I'm sorry, I just wanted to keep the
5 record clear.

6 MR. CHERRY: You are supposed to do that on
7 direct examination.

8 MR. ROSSO: Okay.

9 BY MR. CHERRY:

10 Q Now, can you tell me the process you went through
11 to go from 5 to 5.5 percent?

12 A Yes.

13 I went back through and reran our traditional
14 model, first of all of sales to General Motors accounts.
15 I came up with a revised projection of sales to General
16 Motors accounts.

17 I then went back and analyzed what had happened, or
18 what your projection would be, using the traditional
19 methodologies on industrial sales, excluding General Motors
20 and Dow.

21 I then added those two to the projection that
22 we just referred to of Dow sales and came up with a total.
23 The average annual growth rate over the ten-year period
24 1977 through 1987 was 5.5 percent per year.

25 Q Mr. Bickel, when you did your residential space

1 heating costs forecast -- part of the forecast -- are you with
2 me?

3 A Yes?

4 Q You gave me a list of standards that had a tendency
5 to decrease usage, and one that had a tendency to increase,
6 depending on what the mix was.

7 Do you remember that conversation?

8 A Yes.

9 Q Can you remember any other factors now that you
10 want to add to that?

11 A Well, we talked, of course, about the cross
12 elasticity problem. I guess there is one thing that I assume
13 was inherent in that and perhaps I should state it
14 explicitly, is that obviously the availability of alternate
15 forms of energy would have a very great impact on the number
16 of customers who would utilize residential -- electric space
17 heating, and therefore that would have an impact on the
18 average usage.

19 Q We are talking about use per customer?

20 A Average usage per customer, yes, indeed.

21 Q That would increase or decrease?

22 A That would increase average use per customer,
23 because those customers who would otherwise opt for natural gas
24 for heating or fuel oil or propane or whatever else, would
25 have less of that available, and consequently --

mm10

1 Q You are talking about electrical?

2 A -- and consequently would have to use electricity
3 for space heating, due to either the inavailability or fear of
4 supply of alternate fuels.

5 Q Mr. Bickel, my questions have to do with use for
6 space heating customers, electrical space heating customers.

7 A So do my responses.

8 Q And you are saying that this is now an additional
9 factor which would tend to increase consumption?

10 A It certainly would, yes.

11 Q Are there any others?

12 A I'm sure there are.

13 Q What you just said would tend to increase
14 consumption per customer?

15 A Per customer.

16 Q How would adding on more customers increase the
17 usage per customer?

18 A Because you would tend to add those year-round
19 homes, who would otherwise not opt for electric heat, probably,
20 if something else were available, which given our mix situation
21 would increase the composite residential average use.

22 Q Okay.

23 But that is the same as you told me before that
24 it could go up and down, depending upon what the mix is?

25 A Yes, but it is another factor that I am not sure

mml1

1 I made explicit before.

2 Q Well it is another example of the mix, is all it is?

3 A Right. That's correct.

4 Q Do you know of any other independent factors that
5 you can think of now that have a tendency to decrease average
6 residential space heating per customer?

7 A I'm sure that there may be some more, but as I stated
8 earlier, I cannot think of any.

9 Q Nothing brings it to mind.

10 How about insulation standards, would that have
11 any effect on the amount of average use for space heating
12 customers?

13 A Certainly.

14 Q And thus be conservation?

15 A Yes.

16 Q You didn't mention it in conservation.

17 A Well, I apologize for not mentioning it.

18 Q Well, that's fine.

19 What did you investigate about the future of
20 insulation standards and how you would quantify its impact
21 in your forecast?

22 A We have done --

23 Q This forecast now, the one that you are supporting
24 now, not a speech. The one you are supporting.

25 MR.ROSSO: Mr. Chairman, again will the witness

1 please be permitted to answer the question.

2 CHAIRMAN COUFAL: Answer the question, Mr. Bickel.

3 THE WITNESS: The forecast that I am now supporting
4 again pulled upon a great deal of analysis that was done in
5 the past, which does look into the impact of high levels of
6 insulation.

7 In addition to that there have been other studies
8 that have been used to impact the residential space heat
9 average use which considers such things as the heat pump,
10 air changes, et cetera.

11 BY MR. CHERRY:

12 Q Did you consider changes in real per capita income?

13 A That is a factor -- to answer your question, no, I
14 have not specifically considered that because I have not been
15 able to get any sort of a good statistical relationship in the
16 past.

17 Q Mr. Denton said it was going to go down.

18 Why didn't you go to your economist? Did you look
19 at the exhibit where Mr. Denton said over the next year,
20 ten years, real per capita income was going to decrease?

21 MR. ROSSO: Now, I object.

22 What he said was, he couldn't get a good statistical
23 fit. That doesn't have anything to do with what Dr. Denton
24 said.

25 It is a question of whether he can put it into a

mml3

1 regression analysis with a good statistical fit. That is
2 how regression analyses are made.

3 Object. Unfair question.

4 CHAIRMAN COUFAL: I don't think it is, Mr. Rosso.

5 You may answer, Mr. Bickel.

6 Did you look at Dr. Denton's whatever?

7 THE WITNESS: Yes, I looked at it.

8 BY MR. CHERRY:

9 Q Did you discuss with Mr. Denton as to whether or
10 not he had a good statistical fit?

11 A Mr. Denton does not do statistical studies.

12 I am talking about a statistical fit using disposable
13 income as an independent variable and average use as a
14 dependent variable.

15 Q What investigations did you make in search of this
16 statistical fit?

17 A I tried a series of regression runs looking at
18 this in combinations, and different components of that
19 particular variable.

20 Q Is that all?

21 A Well, in the past, going back over the past since
22 1973 when I first got into this area, I have done a vast
23 number of that type of study, regression runs, trying
24 different variables, trying different combinations of
25 variables, and trying to come up with the best statistical fit.

mml4

1 Q Income, I am talking about per capita income only.
2 Did you try to find a good statistical fit when
3 your own regression studies didn't come up with one?

4 A The attempt was to find one when the studies did
5 not come up with one?

6 Q What did you do?

7 A I am not sure -- I don't understand the question.

8 MR. ROSSO: I am afraid I don't understand the
9 question either.

10 The objection is, vague.

11 BY MR. CHERRY:

12 Q You said you went ahead and made a lot of equations,
13 but you couldn't come up with something.

14 Did you go to a higher consultant?

15 A No, sir.

16 Q Did you go to any of the resident experts at
17 Consumers Power and have a probability encoding session?

18 A No, I did not.

19 Q Did you do anything to see if you could find
20 someone with significantly more experience than you, who
21 might have a statistical fit on per capita income?

22 A Yes.

23 I consulted with a couple of other knowledgeable
24 persons in the company. Specifically I worked to some extent
25 with a gentleman who does our short-range forecasts.

1 Q Do you know of any studies that you would accept
2 as valid that you would consider per capita income as a
3 critical factor in projecting use?

4 MR. ROSSO: Projecting use of what?

5 Objection. The question is vague.

6 MR. CHERRY: Use of air.

7 BY MR. CHERRY:

8 Q Use of electricity, Mr. Bickel.

9 A You are talking residential space heat, now?

10 Q Yes.

11 A I don't know of any.

12 Q You have never read any?

13 A If so, I do not recall them.

14 I do not believe I have read any.

15 Q If there were generally accepted studies -- forget
16 it.

17 Have you seen Exhibit 20? Midland Intervenor's
18 Exhibit 20?

19 (Handing document to witness)

20 CHAIRMAN COUFAL: We are running out of time,
21 Mr Cherry.

22 MR. CHERRY: I have until 6 o'clock.

23 CHAIRMAN COUFAL: Yes, that's right.

24 MR. CHERRY: It is ten of.

25 CHAIRMAN COUFAL: Right.

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THE WITNESS: Yes, I have.

MR. CHERRY: Mark this as Exhibit 23.

(Whereupon, a handwritten document titled "Projection as of 3/25/76 was marked as Midland Intervenor's Exhibit 23 for identification.)

BY MR. CHERRY:

Q Can you identify this?

A What exhibit are you referring to?

Q The one I just gave you.

A You just gave me Exhibit 20. You were just discussing Exhibit 23.

If we are talking about --

Q Give is the word of art. The one I just gave you, Mr. Bickel.

MR. ROSSO: Is it Exhibit No. 20 that you are asking about, Mr. Cherry?

BY MR. CHERRY:

Q Yes.

A Yes, I have seen that.

Q What is it?

A That is some backup notes that were extracted from my backup book for this hearing. Specifically regarding commercial sales growth.

1 Q And in commercial sales growth, it is true that you
2 say factors such as price elasticity have not been specifically
3 quantified, is that correct?

4 A That is correct. They have not been specifically
5 quantified.

6 Q Do you think it would have been a better forecast
7 if you had specifically quantified price elasticity?

8 A If we had specifically quantified it -- well, yes. If
9 we had specifically quantified it orally, no.

10 Q Did you try?

11 A We looked at price elasticity studies that had
12 been done and determined that give the conditions at that time
13 with the combined impact of conservation and recession, the
14 results did not appear necessarily to be valid.

15 Q Which studies did you look at?

16 A I don't recall. I don't recall any specific
17 names, but there were a series of summaries and studies.

18 Q Can you get a list of them for me?

19 When I see you again I would like to have them.

20 A They might have been destroyed, but I will see
21 what I can do.

22 Q Now finally, I want to go back to Exhibit 18.

23 You said these are the figures you used for

24 Dow's input?

25 A Yes.

1 MR. CHERRY: Okay.

2 I represent that Exhibit 23 is a response to
3 an oral interrogatory which was made by Dow Chemical as
4 presented by Mr. Nute, which is being confirmed in
5 writing.

6 Is that right, Mr. Nute?

7 MR. NUTE: That is correct, Mr. Cherry.

8 MR. CHERRY: And this is information Mr. Temple
9 will swear to when he comes here?

10 MR. NUTE: Yes. Mr. Temple will affirm the
11 interrogatories.

12 I don't know if that answers that question.

13 MR. CHERRY: Including this information?

14 MR. NUTE: Yes, he will.

15 MR. CHERRY: Okay.

16 BY MR. CHERRY:

17 Q Now we asked Dow what their projected energy
18 use was going to be, given certain cases.

19 I now show you Exhibit 23 and ask if it conflicts
20 with the Dow input you used in the load forecast?

21 (Handing document to witness)

22 A Neither one of these is precisely the same as we
23 have, no.

24 Q You can't tell from what I gave you whether or not
25 it conflicts with the input you put in?

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1 A I said neither one of these compares with what
2 we have. No.

3 They do conflict, yes.

4 Q I see.

5 If Exhibit 23 were more correct, then Midland
6 Exhibit 18, would that have a tendency to decrease or
7 increase your forecast?

8 MR. ROSSO: Excuse me, may I ask one question here
9 for clarification, of Mr. Nute?

10 Does Exhibit 23 purport to indicate all Dow
11 consumption from Consumers Power Company, or does it purport
12 to indicate only consumption at certain points?

13 MR. CHERRY: It indicates usage.

14 Isn't that right, Mr. Nute?

15 MR. NUTE: I believe it purports to be exactly
16 what it is.

17 It is usage in the Midland plant under the
18 contract, of projected uses under the contract for electric
19 service, plus my understanding of the information I was given.

20 Of course that will have to be confirmed when we
21 look at the written interrogatory. But that is my understanding.

22 MR. ROSSO: So that this Exhibit 23 refers only
23 to consumption of the Midland plant, is that correct?

24 MR. NUTE: That is my understanding of the
25 information, Mr. Rosso, but I don't know for sure.

mm20

1 MR. ROSSO: Thank you.

2 BY MR. CHERRY:

3 Q Do you want to answer the question, Mr. Bickel?

4 A Your question, I believe was, would this cause
5 us to change our sales forecast?

6 Q I don't know that you would change anything.

7 I just want to know, would it impact it negatively
8 or positively?

9 A Well, the factors listed here, as you know,
10 are megawatts. And I project megawatt hours in kilowatt
11 hours.

12 Now if the relationship between the two remains
13 the same, then it would decrease them. But it certainly
14 is possible to have higher kilowatt hour sales and still have
15 the megawatts as projected by Dow.

16 Q You cannot tell me whether or not it would
17 have a tendency to increase or decrease your forecast from
18 looking at these two exhibits?

19 A My assumption is that it would probably would
20 decrease it, but one cannot be certain.

21 MR. CHERRY: Mr. Chairman, I am willing to stop
22 now.

23 I am not through with Mr. Bickel.

24 I haven't gotten yet to Mr. Lapinski.

25 But I do request this: That the next time we

mm21

1 meet, everybody who has anything to do with the Heins
2 testimony, I want them commanded to be here. I don't want
3 this stuff again, so that if they are sitting here and he
4 says Kilmer has got the answer, then we put Kilmer on and
5 ask him.

6 I do not think it is fair to me, and I ask you to
7 consider that very seriously. They pick out all the people
8 they think are necessary.

9 So, don't play these games any more. So I get
10 an answer and they bring all the information with them they
11 need so when I ask a question I want to get an answer now.

12 MR. ROSSO: Just a minute, Mr. Chairman.

13 MR. CHERRY: Excuse me, Dr. Luebke is asking me
14 a question.

15 DR. LUEBKE: You are thinking in terms the next
16 time will be a half day, Monday, as I understand our program?

17 MR. CHERRY: No.

18 What I am going to do on Monday when we return,
19 is start with Mr. Howell.

20 DR. LUEBKE: Oh?

21 MR. CHERRY: They want to have all the Dow and
22 the Power people together.

23 DR. LUEBKE: We are talking about some time in
24 February?
25

mm22

1 MR. CHERRY: The following week, when Mr. Heins
2 and Mr. Bickel and the team who comes back, I want everybody
3 who has got anything to do with it.

4 So I don't want -- if a witness says, that is
5 someone else, that guy is going to be in the room, or he
6 can't answer the question that way. Okay? That's fair.

7 CHAIRMAN COUFAL: Let's see the response we
8 are going to get from Consumers Power.

9 MR. ROSSO: Okay.

10 Now, as we told this Board before, this is an
11 integrated company. There are many, many people who have
12 input to Mr. Heins' work here. We would -- we just took
13 kind of a quick estimate here at the table to try to figure
14 out about how many would have been involved pretty directly
15 on it. And we came up without about 15 to 20 people.

16 There are other people that undoubtedly work for
17 those people, too.

18 Beyond that, again I asked Ms. Bartelman with
19 regard to what the documentation involved might be, and she
20 can't give us a very firm estimate, but she said that
21 I would probably be on the conservative side if I said 20 to
22 25 file drawers of material. And it may be a good deal more
23 than that.

24 Now we are prepared to provide whatever documentation
25 this Board feels is necessary.

mm23

1 We are prepared to bring every one of those
2 persons here if and when it proves necessary to bring them
3 here. But we just can't be asked to load up a bus and
4 bring 15, 20, 30, whatever the number is, here or to be
5 subjected to the kind of sanctions that Mr. Cherry is asking
6 if we guess wrong, and the guy who is the fourth one down in
7 the department, who we didn't think would come up and who was
8 a guy who did a specific thing, can't be here.

9 Now we are prepared to have with us next time,
10 Mr. Heins, Mr. Lapinski, Mr. Bickel, Mr. Carter and we will
11 bring Mr. Climer next time. But beyond that, unless we can
12 have some identification from Mr. Cherry as to specifically
13 who else he believes he will need to call, and he will
14 have a chance -- he has had a lot of the documents and he will
15 have a chance to look at some more in the meantime, but
16 we just can't make it just like that.

17 We just can't bring them all here.

18 CHAIRMAN COUFAL: All right.

19 It seems to me that Consumers has the best
20 knowledge of what went into Mr. Heins' testimony, and who
21 you would have to look to to be cross-examined on the
22 information in the Heins report.

23 I don't know how anybody else is going to know
24 that.

25 MR. RENFROW: The one person who knows it,

mm24

1 is Mr. Cherry. If he can indicate the areas, we will try to
2 provide the people.

3 The difficulty really is that we don't mind
4 providing them on some kind of notice, but I went around,
5 for example, and got the documents, and tried to follow
6 the path by which the information got to Mr. Bickel
7 so I could comply with Mr. Cherry's request.

8 Mr. Chairman, it took me a week. I could go back
9 down to the people who actually did the studies to get the
10 input data on, for example, for the space heat -- go out and
11 get all the data that comes in and goes through Climer's
12 office back to Bickel. That is just one example.

13 If I can know the areas, then we can get a better
14 idea who needs to be here.

15 CHAIRMAN COUFAL: Areas of what?

16 MR. RENFROW: Areas in which Mr. Cherry and
17 Dr. Timm wish to inquire.

18 The material that goes into Mr. Bickel's long-term
19 forecast are many, many inputs. Give us an idea of the input
20 area, we can probably track down the right people. But to
21 try to get all the people who have any input into that long-
22 range forecast is really impossible.

23 DR. LEEDS: Well excuse me, Mr. Renfrow, let
24 me ask you a question.

25 In the forecast there are certain numbers, and

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1 there are certain equations used to generate those numbers.

2 And there were certain numbers that went into those
3 equations.

4 Part of the problem, it seems to me today, is that
5 we miss having the person here who developed the numbers that
6 went into the equations. It may have gotten transmitted to
7 Mr. Bickel, but the person who developed that number is not
8 here.

9 Is it possible to indicate who those people are?
10 Or again, is that the 20 people, is that what you are talking
11 about?

12 MR. RENFROW: If you are going to have all the
13 people that put inputs in the numbers, I will fill up this
14 room and another one for you. That is my problem, Dr. Leeds.

15 MR. CHERRY: I frankly don't believe that. If they
16 were ordered by the Chairman of the Board of Consumer's
17 Power to bring them to the Board of Directors' meeting, the
18 people who did the work on the forecast, you know in five
19 minutes they would do it.

20 It is the same old baloney. The utilities push
21 around the regulators, and the only way we are going to do
22 it, sir, without an insult to you, is to decide whether or not
23 you want the information and order them to have here those
24 people who can be responsive to the questions, and let them
25 worry about it.

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1 You are just going to get speeches. I have been
2 at ICC proceedings, BSC proceedings, AEC proceedings, and the
3 reason is because utilities, they have got a lot of people,
4 a lot of information, a lot of equipment, and no one says to
5 them -- and this is no offense to the Board because I am
6 not displeased with the way the Board has acted in this
7 proceeding, but what I think that you have got to do is
8 move forward and say, damnit, I am tired of this crap. We
9 are not going to sit and have two people tell us that they
10 heard it from other people. I want the information.

11 Your problem -- you want that information, bring
12 them here. You have got a problem with it, that is your
13 problem.

14 MR. RENFROW: Mr. Chairman, I don't have any
15 objection to bringing them here. But I really do object to
16 bringing them all down here and letting them sit to whatever
17 time we finally get to them.

18 Give me an idea of who you want, when you want them,
19 we will bring them. That is not my problem.

20 My problem is trying to bring everybody down, who
21 might have an input and might be called to testify, and have
22 them sit here for whatever time it takes to get through.
23 That is my problem.

24 Give me 24 hours, I will produce anybody.

25 Move me to Jackson and set us up in an office,

1 and we will have them on 15-minute call to get them there.
2 But I do not want to bring them to Chicago, put them up in
3 hotels, make them sit around and wait until and if we get to
4 them.

5 That is my problem.

6 DR. LEEDS: You made a suggestion. Would it solve
7 the problem if we went to Jackson for this particular one?

8 MR. RENFROW: We would have them there by the
9 phone, call them and they would be in the building doing the
10 work.

11 MR. CHERRY: Unless my expenses are paid, I am not
12 going.

13 DR. LUEBKE: The 24 hours you mentioned, would that
14 be satisfactory? If a name or two or three come up on Monday's
15 cross-examination, Consumers Power have them here on Tuesday.

16 If four more names come up on Tuesday, Consumers
17 Power has them here on Wednesday.

18 Is that a fair way of operating?

19 end #14.

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1 MR. RENNROW: I can agree to that except for cer-
2 tain hours, because getting out of Jackson is difficult. I
3 think I could do that.

4 Sometimes I might be able to do that. My diffi-
5 culty is getting them down here.

6 MR. CHERRY: Dr. Leeds, the point I'm really
7 interested in is the people who deal with the backup material
8 and cost production models and loss of load models.

9 DR. LEEDS: It seems like -- isn't there some set
10 of numbers that one would call significant for these things,
11 these kind of forecasts? There must be some group of people
12 who supply what I would call significant numbers.

13 MR. RENNROW: That's what I'm trying to explain
14 to you.

15 DR. LEEDS: There are plenty of those?

16 MR. RENNROW: There's a bunch of people called
17 the Rate Research Department, yes, sir. They go out, depend-
18 ing on which particular area you want to get into, they pro-
19 vide base raw data numbers -- Mr. Climer, for example -- and
20 they provide a lot of numbers.

21 Mr. Climer takes those numbers and other knowledge
22 that he gets -- for example, from the Accounting Department,
23 on how many space heating customers they now have, which
24 comes off the bills -- and puts that together, he and his
25 people, and comes up with a number.

bit 2

1 Those people then sit down, for example, in a
2 group together, as the witness talked about. They take the
3 information that just those people we've now talked about
4 have there and put it with the economist's information and
5 with him, and that's the input that goes into the long-range
6 forecast.

7 DR. LEEDS: Is this committee that we've talked
8 about, the Probability Encoding, the committee that actually
9 makes the decision what the forecast is?

10 MR. RENFROW: They are the ones who approve the
11 forecast. The basis for the approval -- I have to be careful
12 here because the way it was done this year is not the way
13 that it's normally done.

14 The coding that took place was based on those
15 people's -- whatever it was. Mr. Bickel's numbers have con-
16 firmed that independently, so you're really dealing with two
17 separate.

18 DR. LEEDS: What I want to know is what is
19 Consumers Power's forecast? Is it the group that the com-
20 mittee put together, or is it Mr. Bickel's?

21 MR. BOSSO: The forecast is what was evidenced in
22 Mr. Heins' testimony.

23 DR. LEEDS: Was it the committee's, Mr. Heins',
24 or Mr. Bickel's?

25 MR. RENFROW: May we just have a chance to see?

b7c 3

1 I have to get the formal number. There's a technical number
2 that occurs when they say "This is it," all right? That's
3 what I want to check before I say this is it.

4 DR. LEEDS: That's the one, isn't it? Isn't that
5 the crucial forecast, the one that the company says "That's
6 it"?

7 MR. RENFROW: Yes, sir, I believe that's the one.
8 Yes. The one in Mr. Heins' testimony is Consumers'
9 formal forecast at this time.

10 DR. LEEDS: If I came back next year, I'd ask the
11 same group of people? Isn't that committee going to do --

12 MR. RENFROW: I know, for example, that Mr. Moseley
13 has retired this year. He would not be there.

14 DR. LEEDS: Well, equivalent committee. Mr. Moseley
15 is not there, but somebody else is going to take his place.

16 MR. RENFROW: Next year we would have Mr. Bickel's
17 analysis done, presented to the Forecast Committee. They
18 would then ask certain questions. He would re-do it. They
19 would then approve the forecast which he had done.

20 DR. LEEDS: But they did their own this year, is
21 that right?

22 THE WITNESS: There were really two approaches
23 taken this year.

24 DR. LEEDS: Did they do the corporate forecast?
25 Who did the corporate forecast?

blt 4

1 THE WITNESS: They're both the same.

2 MR. RENFROW: They're both the same. Now, they
3 were not at one time. That's the difficulty in communicating
4 and why I have to be careful.

5 DR. LEEDS: Who made the corporate forecast that's
6 contained in Mr. Heins' testimony?

7 MR. RENFROW: I just answered that question for
8 you. That is what we have here, and that is what Mr. Dickel
9 has testified to.

10 At one time the encoding process, since this occurred
11 after, was the formal testimony; but, since time has now
12 marched on, we now have another one. And, if we let time
13 march on again, we'll have to come back and give you a new one.

14 You have now what is the official company forecast.

15 DR. LEEDS: If I got that committee here, would
16 that be the group that could tell me how the Licensee made
17 their forecast?

18 MR. RENFROW: Not the questions Mr. Cherry is ask-
19 ing.

20 MR. ROSSO: He's going into all sorts of detail on
21 inputs on various things.

22 Now, the committee gets that input. If he wants
23 to talk about a specific input, he will have to get the guy
24 who did it.

25 DR. LEEDS: I'm trying to get the guy who made the

lt 5

1 decision. It seems like to me --

2 MR. RENFROW: You want a different man than he
3 does. If you want to talk to the man who made the decision,
4 then we'll bring him, too.

5 DR. LUEBKE: You know about chiefs and Indians.

6 MR. CHERRY: Dr. Leeds, I think that Mr. Renfrow
7 is not being candid with you. There was a change made on
8 page 2 of the testimony of Mr. Heins, and it says the long-term
9 5.2 percent growth rate was determined in 1976 by probability
10 encoding of the Energy Forecast Committee on the basis of
11 information available to them, including prior forecasts.

12 Those are the people who must come here, the
13 people who are on that committee who made that forecast, be-
14 cause it's been represented the corporate forecast was made
15 by them and confirmed in a separate study by Dickel.

16 I don't think the testimony supports that, but at
17 least the change that was made two days ago on the testimony
18 says it was done by the Energy Forecast Committee. And that's
19 who I want, at a minimum.

20 DR. LEEDS: Do they have the corporate responsi-
21 bility to make the forecast?

22 MR. RENFROW: Yes, and that's what I'm saying. If
23 you want the people who actually do it.

24 Mr. Cherry almost has it right. That's why I was
25 very careful. If they had not approved those changed numbers,

bit 6

1 they would not have been changed. That would be the official
2 company forecast.

3 DR. LEEDS: Who do you want to talk to, Mr. Cherry?
4 That committee or some others?

5 MR. CHERRY: I want to talk to -- just a moment.

6 (Mr. Cherry and Dr. Timm conferring.)

7 If the Executive Committee did the forecast, then
8 I think we need them here. I also want someone who can deal
9 with the backup to the loss of load probability study and
10 the cost production model that Mr. Bickel says he can use to
11 confirm with, that Mr. Heins based his cost production models
12 on.

13 MR. BENTROW: Okay. Cost production models, though,
14 are different than what we've been dealing with.

15 MR. CHERRY: Mr. Bickel, I'm going to have one
16 other question, so don't leave.

17 MR. ROSSO: You know it's 6:10.

18 MR. CHERRY: I've got to have this for my work.
19 Just one question.

20 DR. LEEDS: Let's get his one question.

21 MR. ROSSO: I do have to go, sir, I have an obli-
22 gation that really to me is important.

23 CHAIRMAN COUFAL: Ask your question, Mr. Cherry.

24 BY MR. CHERRY:

25 Q In the Midland Exhibit 19, the Dow figures, just

blt 7

1 precisely what does that exhibit contain insofar as Dow is
2 concerned? All of its generation and sales, or just purchases
3 from Consumers, just the Midland Division, or what?

4 A. This is Consumers Power's projection of Dow usage,
5 Dow main plant usage, broken up into three parts.

6 First of all, there is a projection of load
7 generated by Dow on their own equipment.

8 Secondly, there is a projection of load purchased
9 from Consumers Power.

10 And, third, the total of the first two.

11 Q. What does "Dow main plant" mean?

12 A. That's the Midland complex. It's comparable to
13 the same numbers, I believe, that were in the other exhibit
14 that you showed me earlier.

15 Q. Exhibit 23?

16 A. I believe that's correct, yes.

17 MR. CHERRY: That's all.

18 CHAIRMAN COUFAL: Mr. Cherry, you're talking about
19 the members of the committee and another group.

20 Mr. Renfrow, do you understand who this other group
21 is that Mr. Cherry is talking about?

22 MR. RENFROW: I'm sorry?

23 CHAIRMAN COUFAL: Mr. Cherry asked for the members
24 of the committee. He also asked for people that could back up
25 or supply backup for another study, the name of which I've

blt 3

1 forgotten. Do you know who those people are? Do you know by
2 his reference who he wants to have here?

3 MR. RENFROW: For the production cost program,
4 we have Mr. Lapinski here. I do not know what areas of the
5 program he intends to get into. Mr. Lapinski runs that pro-
6 gram and can talk to that program and actually does it.

7 I know from following that program through that if
8 we want to get down to actual heat rate curves I'll have to
9 get somebody else. It's the same Indian problem that Dr.
10 Luebke has referred to.

11 I have the man here, though, who puts the curves
12 together that went into Mr. Reins' testimony. I will have
13 him here next week.

14 CHAIRMAN COUFAL: I'm trying to work out a way
15 to do this that won't sink Consumers for the rest of their
16 year as far as personnel goes.

17 I also think Mr. Cherry's request is entirely
18 legitimate. Frankly, the cross-examination that I listened
19 to today was interesting to me. I think it's valuable, and
20 I think it's important that we get these people.

21 It seems to me that you could come up with a
22 plan that would not shut the company down for lack of per-
23 sonnel and would still accommodate what we want to hear.

24 MR. RENFROW: I think we've offered that. I've
25 offered two things:

blt 9

1 One, if I could have an idea of the areas that
2 he wants to get into, I would attempt to have them here on
3 the dates. It will again be my judgment as to the areas
4 that he wishes to go into.

5 CHAIRMAN COUFAL: Can you give him some indication
6 of the areas you want to go into, Mr. Cherry?

7 MR. CHERRY: I just did. I want the members of
8 the Executive Review Committee.

9 CHAIRMAN COUFAL: We understand that, but beyond
10 that.

11 MR. CHERRY: Loss of load probability studies
12 and cost production models, people who can deal with the backup
13 and understand those matters in detail.

14 MR. RENTROW: And that's where I get my difficulty,
15 as I've said, because when you say those backup people the
16 inputs to those are tremendous in terms of the actual people
17 who -- well, if you trace them down, and I indeed do not know
18 how far he wishes to go.

19 The other suggestion that I've offered --

20 MR. CHERRY: Wait a minute. I've got a suggestion.

21 How about by noon on Tuesday we have a list of all
22 of the people that he says would be so cumbersome to bring in
23 connection with loss of load and cost production model with
24 a description of what input they had, and then we'll make the
25 judgment?

blt 10

1 I'm not prepared to take representations that
2 there are tons of people. I've heard it before, and I don't
3 believe it.

4 I think what we ought to have is a statement by
5 noon on Tuesday that can be delivered to my office of the
6 names of people, what input they have, and we'll make a de-
7 cision from that. I'll make it probably within 24 hours.

8 DR. LEEDS: As a Board member, what I think we at
9 least need is somebody who can explain to us probability
10 encoding and what was actually done on that basis. That's
11 one thing we're going to have to have, because I don't think
12 I heard enough today to understand it.

13 MR. ROSSO: Okay, we'll take care of that. No
14 problem.

15 CHAIRMAN COUFAL: Can you get Mr. Cherry's list
16 on noon on Tuesday?

17 MR. RENFROW: No.

18 DR. LUEBKE: We're not going to do this for two or
19 three weeks, are we?

20 CHAIRMAN COUFAL: What Tuesday are you talking
21 about?

22 MR. CHERRY: Next Tuesday. We have one week off,
23 and then we're going to be back here.

24 DR. LUEBKE: Next week we're going to do executives,
25 Dow executives.

blt 11 1

MR. CHERRY: No, I know that. But Mr. Rosso has told me there is all this information behind it, et cetera. There was a commitment in Midland that all the documents would be indexed by December 30, 1976. Here we are almost to February, and all the documents haven't been indexed.

MR. ROSSO: What? No, that's not true.

MR. REMFROW: No, sir, that's not the commitment that was made. Indeed we told --

MR. CHERRY: I'm asking the Board to order them to do it by Tuesday.

CHAIRMAN COUFAL: I'll tell you what we're going to do:

You come up with a plan. We're going to be -- Dr. Leeds and I are going to be in my office in Washington on Wednesday, in Bethesda on Wednesday. You come up with a plan and have it to us by then that you think you can live with but will still accomplish what we're after, and we'll act on it one way or the other.

DR. LUEBKE: Do you want it in writing or on the phone?

CHAIRMAN COUFAL: I'm sympathetic with Mr. Cherry on this.

MR. REMFROW: Mr. Chairman, I'm sympathetic, too, because I want whatever person that's needed to answer the questions to satisfy this Board, I want to provide him.

blt 12

1 MR. ROSSO: Sure, we do.

2 MR. RENNROW: My problem is you want me to make
3 the list, and, okay, I guess what I could do is go and get
4 each input off every computer code that we've used and give
5 it to him.

6 I don't think that's feasible. I've given him
7 the computer codes for the inputs on there. If they can indi-
8 cate to us which input they want to inquire into, I can then
9 tell this Board --

10 CHAIRMAN COUFAL: Can you do that?

11 MR. CHERRY: What if I do this, Mr. Chairman:
12 What if I tell you that I have completed my cross-examination
13 except for a few questions of Mr. Heins? Do you think you
14 have enough information so you can continue the license?

15 CHAIRMAN COUFAL: I indicated we're interested
16 in hearing more, Mr. Cherry.

17 DR. LEEDS: He answered that question.

18 CHAIRMAN COUFAL: What I'm trying to do is work out
19 a way that we can get it.

20 MR. CHERRY: As far as I'm concerned, the problem
21 is up to Consumers. I have laid out bare now significant
22 areas that I think have gaping holes in the record.

23 I'm going to make a motion after we finish the
24 Dow testimony to suspend the license on the basis of my
25 cross-examination, and I may or may not ask Heins more

Dlt13

1 questions. If I get more answers to the people who have been
2 the supporting people to the testimony, "I don't know; I
3 don't know; I don't know," terrific.

4 CHAIRMAN COUFAL: What we'll do --

5 MR. CHERRY: Let them fool around with their record.
6 I am not going to go through every computer code and pick up
7 every output. If the lawyers who prepared this testimony,
8 who have a responsibility of officers of the court to produce
9 people who can answer the testimony, cannot produce the sig-
10 nificant people, so be it. That will be a finding of fact
11 that I'll ask. I'm just not going to do any more work on it.

12 CHAIRMAN COUFAL: As I indicated, come up with a
13 plan by Wednesday of how you want to handle it and we'll rule
14 on it one way or the other.

15 Mr. Cherry, you come up with a plan, too, on
16 Wednesday or by Wednesday, if you've got one.

17 MR. CHERRY: My plan is simply this: the members
18 of the Executive Committee and those people who are capable
19 of discussing in depth the significant parameters of the loss
20 of load probability study and the production cost model.

21 I don't think they've got more than three people
22 who know how to do production cost models in the whole bloody
23 utility. It's a very complicated area, and so is loss of
24 load probability. The idea that they would have zillions of
25 people is just incredible.

bit 14 1

2 I've seen the character of people that they've
3 put up on the stand, and we don't have to go very far before
4 we don't find any depth.

5 MR. RENFROW: Mr. Chairman, the simple answer to
6 the question is a very close one. Let's move the hearings to
7 Jackson if we're going in that depth. The company can operate,
8 and this Board can have at its fingertips each and every person
9 that it wishes to talk on each and every subject, and we will
10 not have the difficulty of travel. It's a very simple
11 answer.

12 MR. CHERRY: Mr. Chairman, it is not my difficulty
13 and it's not the Board's difficulty. Consumers Power has got
14 to put a case in.

15 This Board has already made a judgment that was
16 based upon significant information, some off the record and
17 some on the record, and I cannot participate in the hearing
18 outside of Chicago. I'm not going to do it.

19 DR. LEEDS: Careful. You said "some off the record."
20 I'm not sure I know what you mean by that.

21 MR. CHERRY: I'll withdraw the statement.

22 The Board made a decision based upon argument on
23 the record; and that decision so far as I'm concerned is law
24 in the case, and I am not moving out of Chicago.

25 I'm not saying that arbitrarily. I just cannot
afford to participate in this case outside of Chicago.

bit 15

1 IF Consumers wants to pick up my expenses and
2 cover some of the other problems I've got as a condition of
3 going there, that's a different question.

4 DR. LEEDS: You mean the decision on the record
5 with respect to moving from Chicago.

6 MR. REMFROW: I'm willing to provide my witness
7 on 24-hour notice in Chicago. If you want me to come up with
8 another plan, I'll try.

9 DR. LUEBKE: What's so impossible about the 24-
10 hour notice?

11 CHAIRMAN COUFAL: I don't know. I don't know
12 that there's anything impossible. That may be the route
13 we'll take; I don't know.

14 MR. CHERRY: If we did it today, we would have
15 never gotten anything done.

16 DR. LUEBKE: You would have had something done
17 by Wednesday.

18 MR. CHERRY: I think we've said enough.

19 Dr. Luebke, one of the things that this Board has
20 got to realize is that they were given testimony which in my
21 judgment is an insult to an intelligent person. The people
22 who were given up are an insult to an intelligent person.

23 That's not my problem anymore. My problem is only
24 demonstrating that. I don't have the burden of proof in this
25 case. The Applicant has.

DR. LUEBKE: But you want more people to do it
with.

MR. CHERRY: I think I've done it, okay?

MR. RENFROW: Providing you provide some basis
for your hypothesis, you may have done it, but I haven't
seen the basis yet.

CHAIRMAN COUFAL: Well, we're getting nowhere.
Get us a plan, and we're going to do it one way
if it takes all spring long somewhere.

MR. CHERRY: We have Mr. Howell beginning at 1:30
on Monday, the 31st of January.

MR. RENFROW: That's fine with us.

CHAIRMAN COUFAL: And the Dow people will follow.

MR. RENFROW: I will talk to Mr. Cherry to see
what he wishes and try to work something out.

MR. CHERRY: I want to start with Mr. Howell. I
don't want to talk to you, Mr. Renfrow. I will be at least
the afternoon with Mr. Howell, and then we're going to start
with the Dow people the following morning.

When we finish the Dow people, I'll continue with
Mr. Howell, and I'll go on with Mr. Aymond and Mr. Youngdahl.
I don't want any arguments about it. That was the agreement
we made.

MR. ROSSO: We're prepared to start with Mr.
Howell on the 31st in the afternoon. Did I understand you

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to say you wanted to go with the Dow witnesses then?

MR. CHERRY: That is the agreement we made on the basis of their schedule. You didn't come up with any schedule, and we all agreed on the basis of Dow's schedule.

MR. ROSSO: Okay, I'm not arguing with you.

CHAIRMAN COUFAL: We'll be adjourned until 1:30 p.m. on the 31st of January.

(Whereupon, at 6:20 p.m., the hearing in the above-entitled matter was adjourned, to reconvene on Monday, 31 January 1977, at 1:30 p.m.)

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