bw8

the Monongahela Power System serving largely in West Virginia and the Potomac Edison Company serving largely in Maryland.

CHAIRMAN RIGLER: Would you be able to show us on the larger map the approximate location of the CEI pump storage generating plant?

THE WITNESS: Yes. The western end of the line from that plant is at our Ashtabula station. The pump storage plant is just south of the northern border of Pennsylvania very near Warren, Pennsylvania.

BY MR. BUCHMANN:

Q Would you mark it in red and mark next to it "Seneca," which is the name of the plant? Physically.

A I might add that the plant is shown on the map and named. I have circled it in red.

CHAIRMAN RIGLER: Is that plant connected to the CEI system by a CEI-owned transmission line?

THE WITNESS: Not all the way.

CHAIRMAN RIGLER: How do you get power to the Seneca Plant from the CEI service area?

A The transmission voltage from the Seneca plant is 230 kv. The step-up at the power plant is whatever the generating voltage is to 230 kv with a very short line connecting into a Pennsylvania Electric Company substation known as Glade.

bv9

It is a substation on a 230 kv through circuit from southeast of Glade, running through Glade, northwesterly to the Erie area. That, in turn, at a substation which is now known as Erie West, owned by Pennsylvania Electric Company, is stepped up to 345,000 volts, put on the interconnection with CEI and it comes in that way.

In essence, the Pennsylvania Electric Company is wheeling for CEI.

CHAIRMAN RIGLER: Are they compensated for wheeling this power?

THE WITNESS: Yes, they are.

bs10

BY MR. BUCHMANN:

Q While we are on the subject of the Seneca plant, when power is generated at Seneca, is it your testimony that it flows -- that power flows along the route you have just described?

A No.

Q How does the power flow?

A Whatever generation at Seneca is for CEI account is put on the transmission system at the Glade substation. This station has 230 kv lines running in two directions from the station. As soon as that power hits the Glade substation, you have lost the ability to distinguish between it and any other. It is just on the network.

It will flow over many, many lines. It will probably affect lines to perhaps an insignificant degree in some places on this whole map.

MR. LESSY: Mr. Buchmann invited us to interrupt if there was a clarifying point.

Whose transmission system is it put onto at the substation?

THE WITNESS: Pennsylvania Electric Company. I refer to them as Penn Electric, also.

BY MR. BUCHMANN:

Q Mr. Bingham, let's assume a situation where there are no other transactions being carried on by CEI except for

ch 2

the fact it will use the Seneca generation.

How big is Seneca, in the first place?

A. CEI entitlement in Seneca is 304 megawatts.

Q. If you want to take the whole 300 megawatts at some point in time, where would you expect that to show up on your interconnections?

A. It will show up on all of them. If you go from zero generation at Seneca to 304 and CEI imports 304, it will result in changes in flows on every line coming into CEI.

MR. SMITH: Is the reverse true also, when you use power to pump the water up?

THE WITNESS: The flows will show up on all lines and, as a matter of fact, if, for example, we purchase that power rather than generating it ourselves -- and frequently we do -- as you know, the pumping is done during the off-peak hours. This happens to be a time of day when many of our neighbors have low-cost economic energy available.

Frequently, we will buy it, and the power will be generated maybe in southeastern Ohio and will flow over whatever routes there are from there to Seneca to get there for the pumping.

BY MR. BUCHMANN:

Q. Including over lines of parties other than CEI and Penn Electric?

A. That is right.

Q Now, with respect to Exhibit 112, I think you said before you would have to consider these power flows in designing your own system or handling your own interconnections. Can you tell us why? What sort of thing do you have to consider outside your system?

MR. LESSY: I object. I think that the fact that CEI, which is what Mr. Bingham is familiar with, is a member of ECAR, he can explain location of systems. I think we are going to get now into an explanation of how ECAR operates, the reliability council, and I think that is beyond the scope of his testimony.

I hate to open up the door for all of ECAR just because CEI is a member.

MR. BUCHMANN: I have no intension of opening up the door. The only reason ECAR was mentioned was because we are using an ECAR map. I will not touch ECAR.

CHAIRMAN RIGLER: What was your question?

MR. BUCHMANN: I asked what sort of things on systems other than CEI does he have to consider in handling his own interconnection arrangements and transmission system.

CHAIRMAN RIGLER: I will permit that.

THE WITNESS: As a general rule, most people operate on the premise that if you have provided an electrically adequate pass between the points where you want to carry out a transaction, you have done your part, with some

possible exceptions or modifications.

What I am trying to say is this: If CEI either owns or helps pay for a pass between Ashtabula and the Seneca plant that is adequate to carry 304 megawatts, they have done their part. The 304 may flow any old place it wants to, but we have committed our own capital and are incurring expenses commensurate with the size transaction we are trying to make between the points we are trying to make it. We can't control the actual flow.

CHAIRMAN RIGLER: You haven't committed any capital to the Penn Electric system for the construction or maintenance of their lines?

THE WITNESS: No, but we have contributed capital for the portion of the line from Ashtabula to the Pennsylvania line, which we own.

MR. LESSY: Could the reporter read back the question from Mr. Buchmann and the Witness' answer, please?

(The reporter read the record as requested.)

MR. LESSY: I don't think the answer is responsive. I move to strike "As a general rule, most people operate on the premise" and that sentence. And then he says, "If CEI,"

I move to strike "As a general rule, most people operate on the premise." He wasn't asked as a general rule what happens.

MR. BUCHMANN: The witness hasn't finished his

answer. The witness is here to testify as to things he knows of his own knowledge. If he knows the general rule or custom in his business, he is entitled, I think, to testify to it.

CHAIRMAN RIGLER: I believe that when he testifies as to a general, industry-wide rule, he is in essence testifying in an expert capacity, and it would be in violation of the pre-filed testimony rule, so the motion to strike the first sentence of the answer will be granted.

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MR. CHAFNO: Mr. Chairman, this is not the first occasion on which the Witness has so testified, and that is the reason for the Department's continuing objection. He has on numerous occasions mixed his general understanding of industry practice. For example, at the outset of his testimony he referred to -- his exact words were typically in rate design and specifically in the case of CEI.

CHAIRMAN RIGLER: That is why I invited you to make specific objections. I listened carefully and it seems the bulk of his testimony is concentrated on the operation of the CEI system.

Mr. Bingham has applied his knowledge, his description of the facts to the operations of CEI and that is why I'm sustaining Mr. Lessy's objection, because he addressed a particular occasion where the Witness exceeded the scope of, let's say, fact testimony relating to CEI and went into something that might be called general expert testimony. I believe at the outset I cautioned you to object specifically on each occasion when you feel a witness is exceeding the scope of factual testimony.

MR. BUCHMANN: Before I go on, Mr. Bingham, in response to a question from the Chairman, you said CEI in its interconnection with PENELEC built and paid for its portion of the line; correct?

bw2

THE WITNESS: Yes. The portion in Ohio was built by and is owned by and was paid for by CEI.

BY MR. BUCHMANN:

Q Does CEI compensate PENELEC for any way for PENELEC's capital investment on its portion?

A CEI pays PENELEC a wheeling charge to get the power from Seneca to Erie?

Q Going back, you have said, or maybe you didn't, so if it is a fact, you said something about doing your part. You felt you had done your part, if you had built facilities which carried the transaction. Do you remember that?

A Yes.

Q Does the Illuminating Company, in fact, practice that, that it tries to do its part in these transactions?

A We try to.

Q Do you do that, because you believe that to be the general rule in the industry.

MR. LESSY: Objection. Again, we are getting into general industry rules. He can testify why CEI does it. In addition, it is a leading question.

MR. BUCHMANN: It is a question of his belief. Why does CEI do that?

MR. LESSY: Why CEI does - that is the proper question.

bw3

CHAIRMAN RIGLER: I'm going to permit it. It seems to me that his belief as to whether it is a general industry rule doesn't necessarily make it so, but he may testify as to whether he believes it to be a general industry rule.

MR. BUCHMANN: Yes. Could you answer the question?

THE WITNESS: The answer is no.

MR. BUCHMAN:: I beg your pardon?

THE WITNESS: The answer is no.

BY MR. BUCHMANN:

Q Why don't you do it?

A I didn't say we didn't do it. Maybe I better have the question.

(The reporter read the pending question.)

THE WITNESS: The nanswer is no.

BY MR. BUCHMANN:

Q Would you explain?

A WEll, perhaps, as an example I can use the one that we have talked about quite a bit, on the preceding exhibit the Westerly 138 kv line of Ohio Edison running from Lorain to Johnson. As I indicated on several occasion and this is true today this interconnection is imposing a limitation on CEI export capability. Loads very generally increased in this entire area such that if the

Avon-Beaver 345 is out of service, the load going out on this westerly 138 is approaching the thermal limitation.

Again, for the same reasons and now it is on two circuits. It is approaching the 50 megawatt limitation combined on the two lines. It means if we try to export with the Avon-Beaver line out of service, we will exceed the thermal limitations and damage the line.

This isn't a burden just to CEI or just to Ohio Edison. There is a burden to the entire interconnected system.

Q How?

A In that everyones' transaction will change --

MR. HJELMFELT: I objection. It seems now he is getting beyond discussing the CEI and its transactions. He is getting into a discussion of the general industry again.

CHAIRMAN RIGLER: I see your point, Mr. Hjelmfelt, but I don't think so in this case. He is talking about how CEI, as I understood his answer relates to the systems with which it specifically is interconnected, I think.

Is that correct or not?

THE WITNESS: Yes.

BY MR. BUCHMANN:

Q Go on.

bw5

A If Pennsylvania Electric Company off here in the extreme north upper right-hand corner of the map were to try to deliver emergency power to say Toledo, over here abaout 18 inches to the right --

CHAIRMAN RIGLER: Mr. Hjelmfelt is concerned because I said everyone. The clarity is by everyone you mean specific interconnection partners of CEI, if that is what you mean.

THE WITNESS: Or even people adjacent to them. Anybody in this area up here.

MR. BUCHMANN: Describe where you are pointing. Use the other map.

CHAIRMAN RIGLER: For the record let me state the Witness was previously referring to Exhibit 111 and now is referring again to Exhibit 112.

MR. BUCHMANN: Explain what you are talking about onthis subject.

THE WITNESS: If the source of the emergency power were, say, the New York Power Pool, basically somewhere in the State of New York1 and the deficiency area was another member of ECAR or even Ohio Edison Company in Lorain, the increased flow of power from this area to the west as we have talked about earlier will divide up.

Some of it will go up there Canada and come down

there, Michigan, and back into the Ohio Edison system.

Some of it will go through the CEI system. Not will try, but will go through the CEI system and will try to go out of the CEI system in part on the Lorain-Johnson line which is virtually at its thermal limitation.

If the transcar is too big, we either have to open up the interconnection or it will burn down.

BY MR. BUCHMANN:

Q What does opening it up mean and what effect does that have on the operation of the system?

A It means opening the switches, de-energizing the lines. It means no flows over them.

I can't tell you the impact it would have on other systems. It does decrease the capability of the whole network.

Now, getting back to the question you asked.

CHAIRMAN RIGLER: I want to do that.

MR. BUCHMANN: Could you tell me what it is?

CHAIRMAN RIGLER: The original question to which the Witness answered no, relating to industry practice, but what was the industry practice we were considering?

MR. BUCHMANN: What was the industry practice?

CHAIRMAN RIGLER: That is what I want re-established.

THE WITNESS: I'm responding to why it is not my

bw7

belief.

CHAIRMAN RIGLER: That is correct, but I want to find out what it basis of that question was.

MR. BUCHMANN: The practice was that each party would do its own part on the interconnections and build an electrical path sufficient to handle that transaction, even though the emergency does not actually flow that way.

Do I paraphrase your testimony correctly?

THE WITNESS: Yes, sir.

I thought I was responding to the question ---

MR. BUCHMANN: Why does CEI do that?

THE WITNESS: Do we do that because it is our belief that others do it.

My answer is no, we don't do it because it is our belief.

We furnish that path. It is the method we use. As far as I know, the people I deal with in contract negotiations do it that way. Some times we go beyond it. Taht is a sort of a floor as to what you do.

BY MR. BUCHMANN:

Q Why do you go beyond it?

A Well, this is the situation I'm talking about on this Lorain-Johnson line. It becomes a weak spot in the entire transaction network. It is a weak spot --

bw8

CHAIRMAN RIGLER: What are you describing as the entire transmission network in that answer?

A It could go as far as virtually anything on this map.

Q Which is 112?

A Which is Exhibit 112, but typically would be in areas closer to Cleveland than the confines of the map, but not necessarily.

BY MR. BUCHMANN:

Q By the way, in the example you used for describing the westerly line you said if the Avon-Beaver line were out of service, you would have a limitation on that line; is that correct, on the westerly line?

A If the Avon-Beaver line is out of service the flow under today's load conditions with zero transfer scheduled -- I shouldn't say zero transfer, CEI would be importing the Seneca generation, but other than that zero transfer, in effect, in CEI, the load on the two Lorain-Johnson circuits is approaching the thermal limitation and in operating the CEI system you have to assume that under -- that the occasion will come when the Avon-Beaver line trips off.

Q Why?

A Lightning. Sooner or later it has to. There is no such thing as certainty.

bw9

Q What impact does that have on the planning of your system the fact that the line will trip out?

A The remaining lines have to be capable of sustaining or carrying on the transactions you are meant to be carrying on.

Q A minute or two ago you gave us an example of the limitation which that westerly line might impose on a transaction between New York and Toledo or Michigan.

Have you, in fact, had transactions that go in the other direction, from west to east?

A Yes.

Q On which your system would have an impact?

A Yes.

Q Give me an example?

A We have transactions that flow through our system, in general, I don't believe there are any current elements in our system that would impose severe or perhaps moderate limitations on the magnitude of transactions.

The problems show up in funny places.

For example, at one point in time I think 1974, some time in '74, a major element in the east to west transmission of emergency power was Ohio Edison's Beaver substation. It was the 345 to 138 kv transformer that was the limiting factor in the entire interconnected system for transfer, I believe from the New York Power Pool to the

bw10

southwest corner of ECAR or it may have been some other place.

MR. SMITH: Are you saying then that you provide -- you do your part as you say to protect the integrity of our own system and that has the same effect as doing your part in relation to the entire network?

THE WITNESS: That is right. And what I was trying to say was that doing your part will occasionally require you to do something more than build a line capable of 304 megawatts from Ashtabula to Seneca. It may impose on you a burden to cure a situation that perhaps you didn't cause or perhaps doesn't limit transactions that are beneficial to CEI, but limit transactions that are beneficial to other parties.

MR. SMITH: But you do it to protect your own system.

THE WITNESS: We do it -- well the Lorain-Johnson lines I was talking about, essentially, as far as I know never have flow in. They always have flow out. If the two lines burn down, I wound't say it doesn't create a burden on CEI, but it creates a much heavier burden on the guy at the other end of the line who is at the normal receiving end. However, there are other lines where we are on the normal receiving end. So we do our partin making sure that this line isn't a weak spot in the whole network. We have two steps underway

bwll

to alleviate that problem. We hope that other people, wherever they may be, who have weak spots which impose limitations on the overall system are correcting those too.

Otherwise, the system won't work. If we don't correct the weak spots we are responsible for, we have no right to demand that other people correct the ones that they make.

CHAIRMAN RIGLER: Referring to your western line whereyou have the problem, where the line is operating at capacity, don't you have to solve that problem in coordination with the party at the other end of the line?

THE WITNESS: Not necessarily.

THE CHAIRMAN: What good would it do you to beef up your end or add another circuit or add additional transmission capacity, if nothing happened at the Ohio Edison end of the line?

THE WITNESS: There are two things we are going to do. One of them definitely involves Ohio Edison directly. Now, I'm back on Exhibit III. It will be to put in a second 345 kv circuit from Avon to Beavr Beaver. The --

CHAIRMAN RIGLER: Who owns Beaver?

THE WITNESS: Ohio Edison. This is the example that I'm citing that involves them. That would solve this problem. CEI also has underway additional plants within

bw12

its own system, which will be a 345 kv circuit from Avon to Juniper, which is where the Ohio Power and the Ohio EDison 345 lines come in from the south.

What that will do is that it will take a major portion of the Avon generation which now either gets put on the 138 kv system at Avon or was flowing out on this 345 line to Beavoer, it will take a major portion of that generation over and insert it into the system in Pleasant Valley -- I'm sorry, Juniper. It will result in a reduction of the flow out on the Lorain-Johnson lines to the west. There are occasions --

CHAIRMAN RIGLER: Where does Ohio Edison compensate for that loss?

ES22

THE WITNESS: It will change the flows in their system.

CHAIRMAN RIGLER: They are a net importer now?

THE WITNESS: No.

CHAIRMAN RIGLER: They are a net importer over the western link?

THE WITNESS: Yes.

CHAIRMAN RIGLER: It will cut down the amount of available flow over the western link. How will they compensate for the loss?

THE WITNESS: It won't cut down the available. It will reduce what formerly flowed because of the electrical characteristics, and it means the flow in the rest of their system will have to change to compensate for it. You have to tell the people what you are doing.

CHAIRMAN RIGLER: They have to make plans.

THE WITNESS: They have to be aware of what we are doing.

CHAIRMAN RIGLER: Ones of the lines that might be asked to carry more load might be operating at capacities, so they might have to beef up some of their own lines?

THE WITNESS: It may be. The answer to your original question is yes, you have to check with everybody.

CHAIRMAN RIGLER: It is more than just checking. Your construction of the 345 line down from Avon to the

Beaver station, that involves physical planning and hardware installation on the part of Ohio Edison.

THE WITNESS: By checking, I mean a lot beyond just telling them, here is what we have in mind. The engineers have to sit down and study it. Perhaps this is a good example.

In one case, one of the things we will do will require definite work on the part of Ohio Edison.

CHAIRMAN RIGLER: For installation?

THE WITNESS: To do the second Avon-Beaver. The second one may require no contribution at all on their part, unless it creates a problem some other place. It can be done probably entirely within the CEI system.

MR. BUCHMANN: You mean the construction?

THE WITNESS: The expenditure.

BY MR. BUCHMANN:

Q Avon-Juniper is entirely a CEI project, is it not?

A Yes.

Q What you are saying is that the construction within the CEI system of entirely CEI transmission lines could have that impact that you have described upon Ohio Edison?

A It will have an impact on Ohio Edison without question. It will reduce the amount of power flowing into their system, their Johnson substation. It will decrease the amount of power flowing out of their system onto other CEI interconnection and rearrange the flow of power within their

ch 3

system.

CHAIRMAN RIGLER: Refresh my recollection.

Does Ohio Edison feed some of its own power via CEI lines to the south of Cleveland, to the Ohio Edison service area to the west of Cleveland?

THE WITNESS: Some of the power does flow through our system. However, Ohio Edison has 345 kv transmission from the Ohio River up into the Akron area where they have their Star substation, and from there up to the Beaver substation.

CHAIRMAN RIGLER: Where is the Star substation? Does it show on Exhibit 111?

THE WITNESS: It would not show on Exhibit 111. It does show on Exhibit 112. It is west of Akron and south of Cleveland.

CHAIRMAN RIGLER: Let's go back to 111.

begin 24

Does Ohio Edison serve or have a substation at any area to the south of Cleveland which shows on the map depicted on this Exhibit?

THE WITNESS: No, they do not. None are shown.

CHAIRMAN RIGLER: I know none are shown. Do they have them?

I assume a lot of companies have lines not shown on this exhibit because they are not CEI lines.

THE WITNESS: I thought you said substations.

Ohio Edison, starting at Juniper substation, going south on the purple line, and then in a westerly direction, you come to the end of the 345, the end of CEI ownership in the 345. However, that, obviously -- the circuit continues. Ohio Edison owns it from that point on. It comes in this southwesterly direction to the Star substation, which is west of Akron.

CHAIRMAN RIGLER: Does Ohio Edison sometimes have a power flow from the Star substation north to the connection with CEI, then via the CEI lines in a westerly direction to the Ohio Edison service territory over by Beaver?

THE WITNESS: Power flows in that direction, but it is awfully hard to tell whose it is.

MR. BUCHMANN: Enlarge on that and explain what you mean.

THE WITNESS: There are two ways of looking at it. 111 is a good example to use, I think.

I have talked and perhaps I should have been more careful about flows in on the south central area of the CEI system from its interconnections and out the western. I can readily see why you get that feeling.

There is another way to look at it. The other way to look at it is say that is not Ohio Edison power at all. It is CEI power from Aven flowing out here and coming in at the south. You could argue this all day and not be able to prove

cn 5

one way or the other.

MR. SMITH: Is there a cost savings to Ohio Edison, transmission cost savings to Ohio Edison because of that phenomenon, whatever you may call it.

THE WITNESS: The losses of the combined systems are less because of this phenomenon, but it is not a one-way street. What I am getting at is this. If we opened up these western interconnections or had none, all of Ohio Edison's requirements in this area, obviously, would have to flow up from the Akron area, say, except to the extent that other interconnections might affect it.

I am quite sure that the electrical losses, if it had to follow that path, would be greater than what happens.

MR. BUCHMANN: Because of distance?

THE WITNESS: Because of distance. The same is true with CEI. If all of CEI power had to flow over its own circuits, I think the losses on the CEI system would also be greater. In essence, we have a power plant that is a lot physically and electrically close to Ohio Edison load areas than their power plants.

They have got some power plants in Southeastern Ohio that may not be closer, but they are a lot closer to Cleveland than they are to Lorain, which is the load area we are talking about of Ohio Edison west of Cleveland. We both benefit by the way the power flows. CEI and Ohio Edison losses

are reduced.

CHAIRMAN RIGLER: Would construction of a line by Ohio Edison from a point north of the Star plant, or north of the Star substation -- let's say the approximate location where their 345 line connects with the CEI 345 lines, construction of a line by Ohio Edison from that point to the Beaver station reduce the problem of the western load center?

THE WITNESS: They have one such circuit now. There is a Beaver-Star single circuit. It shows on Exhibit 111.

A second circuit would help the problem. It probably won't solve it. The solution -- it won't reduce the flows on this line out as much as these other alternatives will reduce those flows. Therefore, at least in my opinion, it is not as good a solution and would probably cost more.

MR. BUCHMANN: I think I have reached the end of a line, if the Chairman please.

CHAIRMAN RIGLER: This is a good break point for lunch.

Has the Board taken advantage of your invitation to ask questions to a degree where we have thrown off your direct examination?

MR. BUCHMANN: Not at all. I am delighted to have you do it. That is why we brought Mr. Bingham.

CHAIRMAN RIGLER: We will come back in one hour.

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(Whereupon, at 1:00 p.m., the hearing was recessed to reconvene at 2:00 p.m. the same day.)

end 23

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Ch 1
fin 25

AFTERNOON SESSION

(2:05 p.m.)

Whereupon,

WILLIAM M. BUCHMAN

resumed the stand and, having been previously duly sworn, was examined and testified further as follows:

DIRECT EXAMINATION (continued)

BY MR. BUCHMANN:

Q Mr. Bingham, directing your attention to Exhibit 112 -- by the way, am I correct, Mr. Bingham, when that was mounted, more was cut off than a piece of upper Michigan?

A Yes. I noticed when I put it up this morning that we had succeeded in cutting off the legend or key which tells you what the colors are.

MR. BUCHMANN: When we provide copies, we will provide the full map, not trimmed.

BY MR. BUCHMANN:

Q Mr. Bingham, tell us quickly what the colors represent generally.

A The solid green lines, for example, this one running down toward the lower end of Lake Michigan, through Indiana, Ohio, down to the Ohio River, that is a 765,000 volt line owned by, in this case, the American Electric Power System. All of the solid green lines are existing 765,000.

The dashed green lines are lines which have been

authorized. In a number of cases, they are probably under construction at the present time.

I am going to take this in order of descending voltages.

The next higher voltage on the map are the orange lines. Here, for example, are some in Pennsylvania. In this case, they run from the Keystone Commonwealth plants running eastward through Pennsylvania. The solid orange is 500 kv line, and the dashed orange are authorized 500 kv lines.

The next step down would be 345 kv. This is indicated by the solid red lines which are all over the map. And the same thing, a few dotted lines are authorized lines.

230 kv is shown by blue lines. For example, here are a whole flock of them in Ontario, part of the Ontario hydro system. We mentioned earlier this morning, here is one particular one we have talked about, running from Erie west, through the Glade substation in which connects Seneca into the whole system and continues southwest ar part of the system.

Q Is that as far down as the map shows?

A No. The rather thin black lines are, I believe, 115 or 138 kv lines. 115, 138 are the same generic class of transmission.

I think that is about as low as it goes. It does

not show the 69 KV underground lines owned by CEI, for example, that I mentioned earlier this morning.

Q. You described this morning when we were looking at Exhibit 110 the circumstances that when someone turns on a light at the customer level, there was a virtually instantaneous impact back at the power plant. Do you recall that testimony?

A. Yes.

Q. Can changes in load outside of a company system impact upon its power plants?

A. Yes. As a matter of fact, either changes in load or the changes in capacity outside the system.

Q. Could you give me an example and describe how it would impact upon the CEI system?

A. Numerous places in this interconnected system are large individual loads. The two kinds I can think of would be electric arc furnaces; another type would be a rolling mill.

An electric arc furnace, when it comes on, it comes on bang, all at once. At least in the CEI system, we have furnaces as big as 40 megawatts. When that furnace comes on, I know our load dispatcher sees its effect on our system. There would be some rim effect of that through other systems.

It is the kind of load that when it comes on, if it is operated properly, it is a relatively stable load while

it is there. It comes on and off like turning on and off a light.

A steel mill would be a different kind of situation, in that you get a surge of power when a billet hits the rollers, hits the stand that has the rolls in it. You get an instantaneous surge that would last only as long as that billet was passing through that stand. It would be a shorter duration and would tend to be on and off quickly.

Q What do you mean by rim effect?

A Those impacts would be felt outside of our system.

Q In what way?

A In that an instantaneous increase in load in the CEI system will impact on all of the generation connected to the entire transmission network. Every generator in the whole system will supply a little bit of that power.

The closer you are to the point at which that load is imposed, the greater impact it tends to have. And if you get far enough away, you probably get down to something that you can't physically measure.

MR. SMITH: This is a 40 megawatt load, the electric arc furnace?

THE WITNESS: Ours happen to be 40 megawatt. There are furnaces much larger than that, though.

BY MR. BUCHMANN:

Q What about the failure of a unit on another system?

ch 5

Would that cause an impact on the CEI system?

A Yes. I might add that other systems have loads like these on them. We would see little effects of these. There are not serious impact, but you see them.

With respect to the loss of a generating unit in another system, certainly, the same thing happens. Assume the unit trips off. That is some of the protective equipment on the generator operates so that it instantaneously disconnects it from the system.

As far as the system is concerned, there is no difference between that and the instantaneous imposition of a load. You have a situation occurring almost instantaneously where load is bigger than generation.

The same end results show up. Flows on lines through the entire system change. Loads, at least for a short period of time, on generators through the entire system change. Some of these can be quite large.

Q Can you give me an example of a large one?

A This is one that would not exist today because the transmission system has changed, but the Consolidated Edison Company still has a machine which is nationally famous, known as Big Alice. It is a thousand megawatts unit in their Rivenswood power plant in the Borough of Queens, I believe.

At the time it was installed, it was certainly the largest generating unit in this region, at least.

Q What was its size?

A. One thousand megawatts.

When that unit was installed, there was no 765 kv as we talked about earlier. The 500 kv system in Pennsylvania was either nonexistent or barely in the development stage, so that the transmission network was not as nearly robust as it is now.

With the loss of 1,000 megawatts of capacity in New York City, the size of that impact was enough so that it was felt for sizable distances. For example, my recollection is that on our interconnection between Ashtabula and Erie, ene 25 we would see a 200 megawatt change in the flow on that line.

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Q How long would it take from the tripping off of Big Alice to the time when you would see that jump on that line?

A Virtually instantaneous. A fraction of a second.

MR. SMITH: You would lose 200 megawatts out of your system, because of that.

THE WITNESS: We would be an intervening party also. What really happens is that we would have 200 megawatt change on this line and there might be changes on other lines.

We would find on interconnections to the west of us or south coming in, we would see an instantaneous increase in the flow in on those lines. Now, this is illustrative only. These numbers I have no idea whether they are accurate or not. If we say 200 megawatts here we might for illustrative purposes think that perhaps CEI generated ten more. And a 190 came in over our other interconnections.

In order words, everybody along the line picks p up a piece of this deficiency. CEI, as well as the people to east of us and a lot of it picked up to the west of us.

BY MR. BUCHMANN:

Q They do that automatically?

A This happens automatically. You get an instantaneous reaction. You have the inertial energy of turbins so you get what amounts to a surge. Then the governors

bw2

on every machine in the entire network try to make up this deficiency. We talked about a single unit this morning. This would happen to the governors and all of the systems.

Because there is a matter of time response to the changing of loads all of these units will help pick up something.

Q Mr. Bingham, you used this morning, the word "wheeling." Will you tell us what you definition of wheeling is?

A Well, I at least for my purposes, I look at two considerations. I think I mentioned this morning that I considered that PENELEC was wheeling for CEI. In essence, this is taking CEI power, taking it through the PENELEC system and putting it back on the CEI system. A power goes through B system and is returned to A at some other point.

Another instance where you might at least in my opinion have something called wheeling would be where you take A power through B system, delivered to C.

In both cases, certainly in the PENELEC case I referred to earlier a payment is made for that service and we would expect certainly if someone were wheeling for us, somebody else's power to pay for that too.

MR. LESSY: Would the reporter read back the answer?

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(The reporter read the record as requested.)

MR. LESSY: I move to strike the sentence beginning "Another instance, in my opinion," because he does not describe the PENELEC situation of wheeling involved in the CEI system. He is describing another possible use of wheeling outside the CEI system or content.

MR. BUCKMANN: The question was his definition of wheeling.

MR. LESSY: It should be limited to the CEI system and his explanation in that content.

CHAIRMAN RIGLER: Not in the context of a definition. We overruled the objection.

BY MR. BUCHMANN:

Q The PENELEC situation you alluded to was the dealing in Seneca power?

A That is correct. The wheeling of Seneca Power to the CEI or --

Q Do you remember using the term "rate blocks"?

A Yes.

Q Tell us whatyou mean.

A I think it was in relationship to residential customers or small customers where the metering price only the amount of energy used. I think I stated at that time that the demand and I probably should have said the demand and customer-related costs -- perhaps I did -- the demand

bw4

and customer-related costs were built into the energy blocks.

In CEI residential rate schedules we have what is known as a block energy type rate. In our case, the first block is 300 kilowatt hours long.

The second block is 700 and the third and last block is everything over 1000. We would, for example, endeavor to build all of the customer-related costs, essentially the things that are constant every month into the first 300 kilowatt hours.

BY MR. BUCHMANN:

Q Mr. Bingham, turning to the -- you are familiar with the various kinds of transactions that can be had over interconnections, are you not?

A Yes.

Q And familiar with how the transactions are priced at least by the Illuminating Company and the other persons with whom you deal?

A Yes.

Q Can you tell me what factors enter into the pricing of power in purchases from other companies?

MR. LESSY: You mean transactions between the Illuminating Company and others?

MR. BUCHMANN: He sells it also.

MR. LESSY: Transactions between the Illuminating

Company and others. Not generally in the industry.

I object if it is a general indication of pricing of transactions in the electric utility industry.

He can tell us about the pricing transactions concerning CEI.

CHAIRMAN RIGLER: We understand the limitation on the question. We understand the question with that limitation.

MR. BUCHMANN: That is what I meant to ask, certainly.

THE WITNESS: Consider four factors. To some extent they may overlap or relate to one another.

One factor is the degree of firmness in the transaction. Another factor is the duration or expected duration of the transaction. A third would be the purpose for which the transaction is being carried out, and the fourth is whether there is a degree of mutuality for the kind of service being provided.

BY MR. BUCHMANN:

Q Well, in your dealings of this sort, what does firmness have to do with it? Why does that have impact on the price?

A It has two effects, really. One is that to some extent it affects even the short-run cost, the immediate cost of the transaction. And if you were to furnish such service for any extended period of time, it has an impact

bw6

on the capital investment requirementof the seller.

Q W.. does duration have to do with it?

A Duration would be related mainly, I think, to the car' .. investment requirement.

For example, we would consider some forms of emergency power and perhaps coordinated maintenance power, as being virtually firm power. If you are supplying such power for a week or a day, it is obvious that you don't rush out and build a new power plant to do it. If you would contract to sell firm power for five years, you would obviously have recognized this in your previous capacity planning.

Q You said the purpose was a factor you took into account. Why?

A We will consider economy interchange. Until I raised economy interchange,most of the kind of power I have been talking about were priced purely on cost. There may be a cost-plus or might or might not be a demand shortage, but cost-based.

The purpose of economy interchange is to achieve an economy. The pricing here is, in fact, a value of service approach.

If I can generate a 20 mils and my neighbor can generate for ten, this particular instance, just because of the temporary conditions, it is obvious that we are in a position to work an economic trade for both of us.

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If he generates some and sells it to us, it obviously has no greater value to CEI than the cost of our doing it ourselves. It obviously must have a greater value to the seller than his cost of generating it.

I, therefore, run into the typical 50-50 split savings economy interchange transaction.

Q In the example you gave, they would sell for 15?

A Yes.

CHAIRMAN RIGLER: Is that the only example of purpose?

THE WITNESS: A lot of these things get interrelated; a coordinated maintenance arrangement, for example. It may relate to all of the kinds of factors. For example, it has a purpose, to improve reliability to a degree, to save money in capital investment.

It has to be pretty firm, so you can count on it.

CHAIRMAN RIGLER: What difference does the purpose make in terms of cost savings, going back, let's say, to your economy energy exchange.

THE WITNESS: If the seller concluded he had to get a full allocated share of his fixed charges of power production or power plant, he couldn't feel in all likelihood, could not sell the economy interchange.

When he adds on his fixed charges, he could well price the economy at above the incremental cost of the

bw8

buyer to produce it, in which case the buyer won't buy it. Since the purpose of the transaction is to accomplish an economy, the pricing must facilitate that purpose or he won't accomplish it.

CHAIRMAN RIGLER: Purpose relates to achieving an economy or increasing reliability; is that what you have said?

THE WITNESS: Generally speaking, those would be purposes or objectives.

CHAIRMAN RIGLER: All of these come up in a pricing consideration. Why would the objective of increasing reliability have any influence on the price at which the power is sold?

THE WITNESS: I'm not sure it would in that case.

MR. LESSY: Could I ask one question on purpose? Purpose from whose point of view: the buyer or seller? In other words, do you look at the purpose of the party who needs the power or your purpose in selling it to them.

THE WITNESS: I think generally at least in my case, it would ge the purposes of both of the parties.

BY MR. BUCHMANN:

Q The fourth item you mentioned was mutuality. Can you tell me what that means and how that impacts on price?

A In the case of CEI we have an agreement with the

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Ohio Power Company and oneof the provisions is an emergency backup provision.

In this case we each agree that we will supply to the other, as emergency power, up to -- I'm sorry, at least 100 megawatts for at least 48 hours. There is some history, as to how the numbers developed, but that is what they are now.

No, CEI incurs both an obligation and a benefit from this provision. We can count on being able to get 100 megawatts from Ohio Power, unless they happen to be in an emergency themselves. We must also design our system so as to be able to supply 100 megawatts to Ohio Power, unless we are in an emergency.

Essentially, it implies these burdens and benefits to both of us. We both have to plan our systems so that we don't have too many emergencies.

Under a condition like that, we don't get concerned with the capital costs of being able to do this, even if we can identify them, because we expect to get an equal benefit back.

And in this case the emergency power is sold on basically an out-of-pocketcost plus a percentage basis.

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CHAIRMAN RIGLER: You are saying your obligation arises from your commitment to supply Ohio Power with this emergency power, which could have the effect of raising your system costs. You have to plan extra capacity so that if you are called upon to perform, you would have the power available to deliver?

THE WITNESS: That is right.

CHAIRMAN RIGLER: Now, if you didn't have this agreement, wouldn't you still have to have that extra 100 MW of capacity to supply your own reserves?

In other words, it seems to me you have not taken into account the reserve sharing aspects of this agreement.

THE WITNESS: I don't think I phrased my answer well. As a matter of fact, there is an overall saving of capacity. The benefit we get generally is bigger than the obligation we incur. This is true of the other side.

I am taking, looking at the end result but breaking it into two parts. The benefit is bigger than the burden. Otherwise, you wouldn't do it. But you do have the obligation, still.

You might express it this way. In return for the benefits we get, we have the obligation to be able to back the other guy up to the same extent.

BY MR. BUCHMANN:

Q How would it affect your pricing if you did not

have such mutuality?

A. Under those conditions, you would have to view the transaction from the standpoint of what will be the duration of it. What kind of burdens will it impose on your system.

For example, in this arrangement with Ohio Power, I mentioned that this arrangement is for at least 100 megawatts for 48 hours. If our emergency is going to extend beyond 48 hours -- and I might interject at this point, we don't intend to have this sort of problem of extended emergencies.

For example, if the emergency occurs on a Wednesday evening, you have the next two days plus a weekend to work on, say, a generator. If it occurs on a Monday morning, well, that is not so good. Frequently, you have more than the two days in which to solve your problem because of the time period in the week at which it occurs.

Q You better explain that.

Your loads are down on the weekend, so you may not need power from the other party?

A. That is correct. If you have some kind of problem that you cannot cure in that period of time, we are expected and do make other arrangements for the purchase of power.

Q Why is there such an expectation?

Who has that expectation?

A I don't remember saying expectation.

Q You said you were expected to make other arrangements.

A Oh, the person selling you the power expects that because, in essence, his guarantee is good for 48 hours. After that period, he doesn't have to supply emergency power under that schedule.

Q All right.

And do you have the same provisions in your schedules when you sell emergency power?

A We don't have the identical arrangement in every schedule. We have arrangements that will accomplish the same end.

Q Maybe that is the question.

What is the end you are trying to accomplish with this 48-hour limitation?

A Well, it is certainly to begin applying pressure -- pressure is the wrong word -- to provide an incentive for the person in the emergency to correct his own problem and get his capacity back on line the way it should be.

Q What business is that of yours?

A Well, to the extent that capacity is unavailable in the region, the reliability of the entire region is weakened. You plan your own system to be able to handle your scheduled maintenance requirements, a certain degree of

ch 4

forced outage requirements.

The pricing mechanism we are talking about encourages a party to do that necessary maintenance work, to get the equipment back on the line. Perhaps it even encourages them to do a better routine preventive maintenance job so you have fewer problems.

CHAIRMAN RIGLER: Is that because you charge a premium for the emergency service?

THE WITNESS: In the case of CEI, if we are buying or selling after the first two days, a demand charge goes on.

CHAIRMAN RIGLER: Let's talk about the Ohio Power arrangement during the first two days. Is that sold at a rate in excess of your rates for other types of power?

THE WITNESS: We buy from them at the highest incremental energy cost in their system. They call it to us at their out of pocket costs. It would be the actual incremental fuel costs, incremental labor, incremental maintenance, anything that is cost that they would incur that they would not have otherwise incurred.

CHAIRMAN RIGLER: Is there any profit placed on the transaction?

THE WITNESS: Ten percent. Some people dispute whether it is profit or whether it is the inability to calculate cost numbers to the absolute accuracy, but it

probably has profit in it.

CHAIRMAN RIGLER: This emergency power is high cost power, high priced power, if that helps you?

THE WITNESS: It is high energy cost. But it has no demand shortage on it. It may, in fact -- it may cost less than firm power. It doesn't have to. It depends on the kind of unit involved.

In the CEI system, for example, if we were selling emergency power, and in most cases this would tend to be on peak power; people don't buy the power if they don't need it. When their loads are off, they generate their own requirements. It is at their peak load periods that they need it.

Those tend to coincide roughly without peak load periods. At that point in time, we bring on oil-fired generation in Cleveland. Suddenly, the incremental cost of energy more than doubles, because oil not only costs more than twice as much as coal, but it is burned in the less efficient plants. So the incremental cost of energy conceivably could triple. It is probably that that is about the most expensive energy around, even in terms of total costs.

CHAIRMAN RIGLER: And the 10 percent profit or add-on, however you want to describe it, is figured on the basis of that tripled incremental costs; is that correct?

THE WITNESS: Yes, it is.

CHAIRMAN RIGLER: In essence, CEI would be making

its maximum profit by the sale of emergency energy as compared to other types of energy sales. Is that correct?

THE WITNESS: I really don't believe so. That 10 percent isn't thrown on as a profit item. For example, in the determination of incremental production costs, this is based on tests that we have made over a period of a number of years where we have at various loadings on various machines determined the heat rate and what the incremental heat rate is between loading positions on the machines.

But some of these tests are a little old. Gradually, over the life of a machine, in general, and in addition, specifically between major overhaul periods, heat rate deteriorates. Although we would like to be able to say we know what the incremental heat rate is precisely, the answer is we don't know what it is precisely. We could be off a couple of percent.

If we are off a couple of percent, we will be off that much in the pricing of the energy. The cost of the fuel per million Btu wouldn't affect that -- say 5 percent we may be off.

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CHAIRMAN RIGLER: Doesn't the sale of power at your highest incremental costs actually enhance your profit in yet another way, in that it is lowering the average cost of the power you are selling to your own customers?

THE WITNESS: Not at all. No, sir, that is not

MR. SMITH: You don't get a return on investment on emergency power?

THE WITNESS: No, we do not.

MR. SMITH: Except that included in the 10 percent if at all. It is fuel costs, labor costs --

THE WITNESS: To the extent that any of the 10 percent turns out to be in excess of costs.

CHAIRMAN RICLER: Suppose in order to satisfy the demand to Ohio Power you don't have to light off any other boilers or do anything to open up another generating station. Suppose you can handle it with your system as it is presently running, just by looking at it as extra load on generators that aren't working at capacity right now.

THE WITNESS: Generally speaking, that wouldn't happen. If we have 100 megawatts too much spinning reserve on the system, our operators aren't running the system properly. Even if that could be done, that would merely lower the incremental cost of supplying the energy, and what we would bill to the buyer is the actual or calculation of the actual increase in expenses.

Perhaps I could illustrate this way. These numbers are purely for illustrative purposes.

Suppose we were generating our own requirements at an overall average of 10 mils per kilowatt hour. Let's assume we are right at the point where the next increment of

load that comes on will require the starting of one of the oil-fired units and a load of 100 megawatts comes on, and that 100 megawatts costs 30 mils to generate.

Here I get very illustrative. I will assume that that is half of the load, because I can divide by two. Overall, we would have an average production cost of 30 mils.

If this were our own native load, we would have to build 20 mils into our rates. As a matter of fact, the fuel clause adjustment we talked about this morning would pick that up. If it was emergency power, however, we would sell that emergency power to the buyer at 30 mils.

In the operation of our fuel adjustment, the fuel cost of that sale would be deducted from our internal fuel costs and we will come out with a 10 mil fuel cost, like we started with, applicable to our own individual customers. So that in the case of emergency power, the individual who actually causes the specific cost to be incurred bears the responsibility for paying that cost.

MR. SMITH: But isn't the true cost of emergency power to the buyer not only what he pays in incremental fuel costs plus 10 percent, but what it costs him to maintain his obligation vis-a-vis the other party? If you are required --

THE WITNESS: Yes. This is what I think I tried to relate to earlier. You have the obligation to do it back for the other guy.

ch 9

MR. SMITH: Even if you don't do it, you have to maintain the capacity to do it, which is part of your true cost of emergency power.

THE WITNESS: That is right.

Again, these numbers are perhaps illustrative. If we had merely the right to receive 100 but no obligation to ever return it, that 100 megawatts might be worth 70 or 80 in our system. It would be more except for the 48-hour limitation. However, in the -- because we have to be able to respond, the 100 which maybe firm gets discounted to 70 ends up with a net effect of 30 or 40. We save 30 or 40 megawatts, not 70.

The reason we don't save 70 is that we have a return obligation to the other guy.

BY MR. BUCHMANN:

Q By "save" there you mean you avoid having to install that capacity?

A Yes, that is what I mean.

Q Mr. Bingham, I don't know if the record reflects what heat rate is. Can you tell us?

A Heat rate is generally referred to in terms of the net heat rate, which is a quotient of the number of Btus of fuel consumed in a plant and the net kilowatt hour generation from that plant.

Q Which do you strive to get, a high heat rate or

ch 1

low heat rate?

A. The low heat rate is the desirable thing to have, all other things being equal.

Q. Continuing with the emergency power; is it possible to have an interconnection with an adjacent company and not have a contract for emergency power?

A. It is conceivable.

Q. If there were an emergency on one of those systems such as the failure of Big Alice, what happens to the power from the other system?

I am trying to ask, do you need a contract to have ths power flow?

A. You don't need a contract for emergency. When a unit trips, you get the instantaneous reaction I described. The contract might -- I can't imagine why anybody wouldn't have an emergency agreement, but you don't have to. The agreement might provide merely that when this event occurred that you will relieve the flow within ten minutes or 20 minutes or get off the other guy's back within a stated period of time.

Q. Now,you said that your emergency rules contemplated either either a limitation of 48 hours or something similar to give an incentive to the other guy to get it straightened out.

Did I paraphrase it correctly?

MR. LESSY: He said his contract with one utility provided that, not his contracts for all emergencies.

MR. BUCHMANN: Did I paraphrase you correctly?

THE WITNESS: I believe you did.

MR. LESSY: Did your testimony say that was a general provision in CEI contracts?

BY MR. BUCHMANN:

Q Does that mean after 48 hours or some other period of time you stop selling electricity?

A No.

Q What does it mean?

A If it is necessary to continue the sale and/or the purchase, the transaction is continued under some other schedule.

Q What is the price relationship likely to be to the original emergency price? Does the price go up or down?

A It generally goes up.

Q Why do you Awant to give this incentive to another party, or why does another party want to give it to you?

A This is an incentive to get your equipment repaired and back on the line so that you are not only able to furnish your own requirements but are making your contribution to the reliability of the entire network.

Q Why, if I may say, is that a desirable thing? What concern does the seller have if you continue to take

power from him rather than restoring your equipment?

Q Well, we are all concerned with reliability of the network. If the entire network is weak because a party or number of parties are not meeting their obligations, the network is just as weak for us as it is for anybody else. The likelihood of our being able to get emergency service when required is diminished. The reliability of everybody is diminished, not just the parties who may be causing the trouble.

Q Now, are you familiar with the term "short-term power"?

end 28 A Yes, I am.

S29 bwl

Q What does that mean to you?

A This is one of the alternatives or substitutes for emergency power.

We have this agreement in our Ohio Power contract, as well as, I guess, in all of our contracts.

This is power contracted for by the week. This is not to imply you can't go out and sign a contract for 30 weeks. But the deman charge is premised on a weekly demand charge. It is firmer service than, say, economic interchange.

But the seler presumably should be able to give you reasonable assurance that you will be able to get the power continuously.

He is not guaranteeing -- guaranteeing is the wrong word -- he is not backing it up to the extent he would firm power. If he has problems you will go before somebody else will.

But in return for that demand charge, you make him, he is sort of saying my capacity situation is such that I'm pretty darn sure it will be available most or all of the time.

Q Did you say there was a demand charge in this rate?

A Yes, this is a weekly demand charge.

Q I'm not sure I know what a weekly demand charge

bw2

is.

A. It is so many dollars per kilowatt of maximum demand each week.

Q. How do you charge -- price the energy?

A. The energy is priced inthe same manner. It is the out-of-pocket costs of producing that energy, plus ten percent.

Q. It is the same manner as emergency power?

A. Yes.

CHAIRMAN RIGLER: Would you tell me once again what factors go into whatyou have been calling incremental costs?

THE WITNESS: First, in the general sense, it is to be all of these costs which you would otherwise not have incurred had you not made the sale.

The biggest single item would be fuel. There is incremental maintenance on power plants. For example, one, I think sort of obvious place where you would have incremental maintenance is in coal pulverizers. Either the balls or rolls depending on what devices wear out as a function of how much coal they grind.

If your grinding more coal, they will wear out sooner, and you have maintenance costs.

There are other elements that contribute to incremental maintenance. Conceivably -- well, a customer

bw3

may want the power around-the-clock. I may not. Whether he wants it or not you may have to man an additional unit. You may have to call employees in, hold employees, pay overtime or something, in order to have enough additional manpower to operate an additional unit or to start additional units.

Frequently, there are incremental taxes associated with transactions.

CHAIRMAN RIGLER: Are there any provisions for administrative or staff functions on the system?

THE WITNESS: Generally speaking, none.

CHAIRMAN RIGLER: So that if a company were to sell at incremental costs, it would soon go broke?

MR. BUCHMANN: If you define incremental costs that way, you mean?

THE WITNESS: If it were sold at incremental costs, it would come out even on that transaction.

CHAIRMAN RIGLER: Because it has no provision for return on investment or recovery of capital costs or administrative expenses, it would go broke.

THE WITNESS: If it went into the business of selling at that kind of incremental cost, it would go broke, very fast.

BY MR. BUCHMANN:

Q You referred to the pulverizer. Do you still

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exhibit 110 up there?

A. Yes.

Q. Am I correct that the pulivarizer you are referring to is something marked "pulverizer"under coal bin?

A. Yes, it is. It is on the left side of the representation of the power plant.

Q. What does it do?

A. Coal as delivered in the CEI system mostly is rail coal and comes into something known as a car dumper. It takes the freight car and turns it upside down and dumps the coal into a bin. It goes then through a breaker. It takes the randum lump sizes in the coal car and breaks them down into a size no larger than, say, one-inch or an inch and a half or something of that nature. It is carried up a belt and dumped into what is called a coal bin, which is ordinarly referred to as the coal bunker, where you store a great many tons of coal. It flows by gravity out of that into what is the pulverizer. This is eitner in our case a ball mill, mostly ball mills, although I'm not sure, maybe some rollers, where the lumps of coal of not larger than one inch size,say, are literally pulverized down to the fineness of talcum powder or something like that. It is then picked up by an air stream and ignited in the furnace section of the boiler.

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Q I wanted to make sure people know what that was.

CHAIRMAN RIGLER: We will take a ten minute break.

(Recess.)

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BY MR. BUCHMANN:

Q Mr. Bingham, going back to emergency power for a minute, is it possible for the Illuminating Company to sell emergency power to two entities at the same time?

A Yes.

Q Let's assume you were selling emergency power to somebody, called A, and then B asked you for emergency power and you have the capacity to give it. How would you price the emergency power to B?

A Essentially on a first-come, first-serve basis. The person requesting it first will get whatever is the incremental cost of supplying that much additional load. If party B comes along subsequently, requiring emergency power, that would be a load on top of own load plus the first emergency.

That energy could cost more than the first incremental emergency cost because you are getting to less efficient equipment.

Q Are you familiar with the term "limited term power?"

A Yes.

Q What does that mean to you?

A Limited term power is an extension of the short term power concept. It is a monthly rate. It has a monthly demand charge. The demand charge is more than

EAK2

four-and-a-third times the weekly rate and the degree of reliability or firmness of that is even greater than the short term.

Q How is the energy priced?

A The energy is priced in the same manner. It is out-of-pocket costs plus a percentage. I might interject at this point, within classes of power, you price the way we talked about when you asked about two emergencies.

In other words, the guy there first, if you have two people buying limited term, the first one to take the service would have the lower incremental energy costs. However, if you are selling two different kinds of service, if you are selling limited term to one party and short term to another, one of the benefits you get by -- you get two benefits by paying the higher demand charge for limited term service.

You get a greater degree of firmness and you get a lower position in the peaking order for pricing.

Q For the energy pricing?

A That is right, for the energy pricing. Likewise, if you are selling short term to party A and emergency to party B, the person buying the short term gets the lower energy rate.

Q Is that true even if he comes on after the emergency customer?

A Yes.

MAK3

Q What does firm power mean to you?

A Firm power to me means a class of service having the same reliability as the service to our own customers. And if we for any reason at all were unable to supply our total requirements including that, that power would be curtailed in the same relative amount as power to our own individual customers would be curtailed.

Q What periods of time do you have firm power contracts for?

A We have had occasion in the past on one instance to sell firm power and another to buy it.

The sale was something in excess of a year. The purchase went for several years. These are generally of substantially longer duration.

Q What is the method of calculating the price for firm power? Or methods if there are more than one?

A We have run into two kinds of situations or you can run into two kinds of situations. One of them you might be selling what we call average system capacity and it would carry with it average system operating costs. An alternative to that would be a sale o what is generally called unit power where both the capital and operating costs are associated with the capital and operating costs of some specific unit.

And frequently the availability of power maybe

RAK1

dependent on the availability of that specific unit.

Q I am not sure what that means. Give me an example?

A Much of last year, all of last year, I mean, CEI was selling power to Duquesne Light Company and to Toledo Edison specifically from our East Lake No. 5 unit. The demand charges associated with that sale were directly related to the capital costs of the Eask Lake 5 unit, and the demand related operating costs of the Eask Lake 5 unit.

And the energy charges were directly related to the -- primarily to fuel costs of the East Lake 5 unit and some other minor items. Whenever the East Lake 5 unit was not in service, no power was delivered to Duquesne or Toledo in respect to that agreement.

Q What happened if either of those purchasers wished power at that time, even though East Lake 5 was down?

A They would have to make arrangements under another agreement.

CHAIRMAN RIGLER: Now, the transactions you have just described, did that include an element of profit?

THE WITNESS: YEs. We were reimbursed for our full fixed charges on an allocable portion of the Eask Lake 5 unit.

BY MR. BUCHMANN:

Q Define fixed charges so the panel will see what tha

EAKS

profit is?

A This would be the return element, income taxes, property taxes, depreciation, insurance.

Q What do you mean by return in the utility sense that you used it?

A In the utility sense, return is comprised -- in the case of CEI, it is the return to -- cost elements of common equity, preferred equity and bonds. It includes the debt component of the capital structure.

Q And the equity?

A Yes, it includes the equity, both equity components.

CHAIRMAN RIGLER: So the transaction where you were sellingthe East Lake power to Duquesne could be recorded as profitable to CEI?

THE WITNESS: YEs.

CHAIRMAN RIGLER: Could you make a comparison during the last year for your sales to the City of Cleveland which I understood from previous testimony went on during this same year, is that correct?

MR. BUCHMANN: Yes, sir. They weren't profitable. We haven't been paid.

CHAIRMAN RIGLER: Let's assume for purposes of the question, they were paid at the billed rate.

THE WITNESS: For the year 1975 it would have been

EAK6

profitable.

CHAIRMAN RIGLER: Would the profit on those sales have been greater or lesser than the profits on the sales to Duquesne, not in overall terms, but on a per dollar basis?

THE WITNESS: I think they would have been less but I would have to check that.

MR. LESSY: I would like to interject one question. Was the rate of the sale of East Lake power to Duquesne the same as the rate to Toledo from the East Lake unit?

THE WITNESS: Yes. Not that there weren't some variations caused by the -- by variations in their relative take, but if they were both taking the maximum amount to which they were entitled, the rate was identical.

BY MR. DUCHMANN:

Q What do you mean by variations in their actual take. What are you talking about there?

A Each had an entitlement of so many megawatts of that unit. In fact, what they had was an entitlement for a percentage of the output of the unit, which was represented by their megawatt entitlement divided by the capability of the unit.

All I am trying to say is that if at some point the unit was partially derated -- say a feed water unit is out of service, a pulverizing mill is our of service, maybe you can get 75 percent of the capability out of

EAK7

the unit.

They would be entitled to 75 percent of their bogey megawatt or their contract megawatts.

They don't have to take it. In many, many instances, through the year, Duquesne Light, for example, would find that their incremental generating costs on older equipment in the Pittsburgh area, near the coal fields, was lower than the energy costs, incremental energy costs from the more efficient East Lake unit but a unit burning a higher cost coal.

BY MR. BUCHMANN:

Q Higher cost because of its distance from the supply?

A Its distance from the supply and perhaps even the vintage of the long-term coal contract for coal supply.

Q You are saying that Toledo and Duquesne had the same rate but the cost per unit of kilowatt, cost per kilowatt hour coming out of that would depend on the load factor of the take. Isn't that what you are saying in part?

A There is a formula for dividing the total fuel cost of the unit between the parties entitled to take the output. It is not really load factor. It is if one party curtails, it has one impact. It has an impact on the average and incremental heat rate of the unit.

So that his fuel cost per kilowatt hour becomes different than the fuel costs of the other parties.

EAK8

Q Mr. Bingham, you have described the CEI interconnections this morning.

CHAIRMAN RIGLER: Can I interrupt here. I would like to stay on the Cleveland comparison for a minute. Are you selling power to Cleveland pursuant to an emergency interconnection schedule?

THE WITNESS: Yes.

CHAIRMAN RIGLER: And would you tell us whether that has the 48-hour provision which you have with Ohio Power?

THE WITNESS: That particular emergency schedule is in essence, a conglomeration or consolidation of several schedules . It has elements, rate elements of emergency, short-term and limited term. It is an outgrowth of an order from the Federal Power Commission which essentially required that this be the rate. It works this way. If you start with an assumption that they had been supplying all of their own requirements and taking nothing from CEI and have an emergency, for the first two days, 48 hours, we would supply them at the standard emergency rate, out-of-pocket costs plus a percentage.

It is not quite standard. Those rates we have with other people have floors in them which this rate doesn't.

CHAIRMAN RIGLER: It would be close to the same rate

EAK9

that Ohio Power would pay during those first 48 hours.

THE WITNESS: It would be identical.

CHAIRMAN RIGLER: All right. You said in the case of Ohio Power after the 48 hours, the rate goes up dramatically, because you want to have an incentive for Ohio Power to bring its own system back on the line?

THE WITNESS: Yes.

CHAIRMAN RIGLER: Does the same hold true with the contract or rate schedule for the City of Cleveland?

THE WITNESS: Yes. I am not sure I would characterize it as a tremendous increase in the rate, but it is an increase.

CHAIRMAN RIGLER: There is an increase after 48 hours if Cleveland stays on the emergency power service?

THE WITNESS: All right. Starting with the third day, the rate becomes equal to what the short term power rate was in 1971 or '72. That charge is 40 cents per kilowatt a week. The current short term rate is 50 cents a week. After an additional four weeks, we are out to essentially a month, 30 days, the rate increases again through the demand charge only, to what the limited term rate was in 1971 or '72.

This is $2.15 a kilowatt.

MR. BUCHMANN: For what period of time?

THE WITNESS: Per month.

EAK10

BY MR. BUCHMANN:

Q Is that the same as your present limited term rate?

A No, the present limited term rate is $2.75 a kilowatt.

CHAIRMAN RIGLER: Nonetheless, there are step-ups in the cost for the City of Cleveland the longer they stay on the emergency service.

THE WITNESS: That is correct.

CHAIRMAN RIGLER: Yet, you indicated that taking these factors into consideration and taking into consideration that Cleveland had been on the emergency service for a long period of time, that transaction nonetheless was less profitable to CEI than the sale to Duquesne or Toledo Edison?

THE WITNESS: The sale to Duquesne and Toledo was not a casual sale. It was a result of the joint planning of the CAPCO group. When the East Lake unit was constructed, it was anticipated that sales would be made until such time as Toledo Edison -- the DAvis-Besse units is one of the units where Toledo Edison has substantial ownership.

It materially curtails the amount of power they are purchasing from other people. These are planned events. The emergency power we are selling to Cleveland --

EAK11

let me backtrack.

They are planned events. We are being reimbursed fully for the capital costs and operating expenses of the particular unit that is involved. The reason I can't answer your question out is because I have forgotten what the demand charge is on that sale.

CHAIRMAN RIGLER: From your previous answer, the profit was higher on the sales of power from the Lakeshore plant to Toledo Edison and Duquesne --

THE WITNESS: East Lake plant.

CHAIRMAN RIGLER: East Lake. -- even though the risks are less to the CEI system in that if that plant goes down, their obligation terminates to the other two systems, is that correct?

THE WITNESS: That statement is correct, that if the plant is shut down, we have no obligation. Under the terms of our emergency contract with Clevelant, if we have emergencies of our own, we theoretically have no obligations either.

CHAIRMAN RIGLER: You can shed them to cover your own emergencies?

THE WITNESS: Theoretically, we can. Practically is a different matter.

CHAIRMAN RIGLER: Is the East Lake Plant a coal-fired plant?

EAK12

THE WITNESS: Yes, this.

CHAIRMAN RIGLER: From your past two answers, should I anticipate that the projected cost of power out of Davis-Besse will be substantially lower than the cost out of the East Lake plant?

THE WITNESS: The energy related costs will be materially lower. The capital related costs will be substantially higher. The labor costs per kilowatt of capacity will undoubtedly be lower.

The problem is to determine what is the relative mix of the higher capital costs and the lower energy costs to determine what is the overall impact.

CHAIRMAN RIGLER: Has CEI made such a study?

THE WITNESS: YEs.

CHAIRMAN RIGLER: What conclusion did that study come to?

THE WITNESS: We concluded that over the long run, we are looking at the future, that nuclear plants would have a lower total cost than would new fossil plants.

CHAIRMAN RIGLER: What is the size of the new Lakeshore unit that we have been discussing?

THE WITNESS: East Lake unit?

CHAIRMAN RIGLER: East Lake.

THE WITNESS: 650 megawatts. That happens to be a CAPCO unit. As are all of the nuclear units involved in

ZAK13

this proceeding.

Duquesne Light Company owns 303 megawatts, has title actually.

CHAIRMAN RIGLER: Was there any discussion in the CAPCO group of Duquesne merely building a 200 megawatt coal-fired plant in its own territory?

THE WITNESS: There was much discussion in the early stages of CAPCO as to how ownership would be handled. The Duquesne Light Company had a strong preference to have an ownership interest in a power plant somewhere which related -- which when combined with their ownership of existing plants gave them an ownership of adequate capacity to supply their own load.

They did not want to purchase power. They did not desire to --

CHAIRMAN RIGLER: I was asking why they didn't build a 200 MW coal-fired plant somewhere in the Duquesne service area. What considerations led them to purchase a one-third interest approximately?

THE WITNESS: A 200 megawatt unit, capital costs per kilowatt would be significantly higher than the per kilowatt costs of a 650 megawatt unit.

CHAIRMAN RIGLER: Studies were made to determine what?

THE WITNESS: YEs. This has been true for many,

EAK14 many years. As a matter of fact, in the past, you found
2 up until 1960, the capital costs per kilowatt for larger plants
3 was in fact less than the capital costs per kilowatt of
4 older plants which were smaller. The economy of scale
5 in fact, was enough greater than the impact of inflation
6 so that the cost per kilowatt went down.
7 That is no longer true.
8 BY MR. BUCHMANN:
9 Q Mr. Bingham, you said your studies indicated that
10 the long run costs of nuclear power to which you referred
11 showed that in the long run, it would be overall cheaper
12 than fossil plants built now.
13 A That is correct.
14 Q Did the studies reveal what the relationship
15 would be to the fossil plants already in existence, if you
16 remember?
17 A I had occasion to do some analysis for another
18 purpose, where I was trying to relate as I recall the
19 then-projected costs of Davis-Besse 1 with the -- and I have
20 forgotten because it was a case that somebody else created
21 the parameters -- it was maybe the cost of our Ashtabula
22 station or our Avon Station or something like that. The
23 conclusions I reached were that in the first few years of
24 operation of the Davis-Besse plant, the then-projected costs
25 of it, the total annual cost would be greater per kilowatt

EAK15

on Davis-Besse than it was on this existing CEI plant. But there was one major difference between the two plants.

Davis-Besse was largely a capital intensive -- our whole business is capital intensive but relatively Davis-Besse was capital intensive compared to this fossil plant.

My recollection is that my calculations showed that 75 percent of the annual cost of Davis-Besse were fixed charges and 25 percent was operating expenses.

The fossil plant was not quite but almost the reverse, 75 percent operating expenses and 25 percent fixed charges.

It is on operating expenses that inflation operates and that four or five or six years out into the future, those total cost lines would cross and the nuclear plant from then on would have a lower total cost than an existing fossil plant.

With the massive run-up in fossil fuel costs in 1974, that period of cross-over would have been advanced and in fact, had Davis-Besse been available, been reached in its first year.

BY MR. BUCHMANN:

Q You described this morning, CEI's interconnections with its neighbors. Each of the neighbors with which CEI is interconnected are interconnected in their turn to one or more others, are they not?

EAK16

A That is correct.

Q And as an example, Ohio Power is interconnected with Appalachian, I suppose. Do you know?

A Appalachian Power Company, yes, they are part of the same system.

Q When you at the Illuminating Company wish to purchase power under any of the various contractual arrangements you have described and you go to Ohio Power and find that Ohio Power has none available, do you then go to the persons in the next ring out, so to speak, interconnected with Ohio Power or what do you do?

A No, we ask and as a matter of fact, I expect Ohio Power will volunteer to go beyond. They will do the checking for us with the systems, additional systems with whom they are interconnected, with whom we are not interconnected.

Q Why do you do it that way?

A Industry custom. We deal with the folk who we are interconnected with. We have no rights to anybody else's system. So those arrangements have to be made by others.

Q One more question, Mr. Bingham. When you were responding to a question from the Chairman, you said that theoretically if you had an emergency on your system, you could terminate service to the City of Cleveland.

EAK17

Why did you use the word theoretically?

A As a practical matter, we couldn't live with the reaction that would occur if we were to disconnect the City of Cleveland at the present time.

We are presently supplying roughly 80 percent of their requirements. This means that we either interrupt 80 percent of their customers or they stop pumping water which will ultimately reflect probably on 100 percent of the residents of Cleveland.

From a public relations standpoint, a political standpoint, anyway you want to look at it, this would without question, reflect adversely on CEI.

Q Indeed the water pumping of the City of Cleveland serves far more than the City of Cleveland, does it not?

A YEs, but the water system which we don't want so get into, is more complex, too, and CEI supplies some of it.

Q Some of the pumping power?

A Some of the pumping power. I can't tell you literally who is responsible for what water.

MR. BUCHMANN: Thank you, your Honor. I have nothing further.

CHAIRMAN RIGLER: On the East Lake plant sales of power to Duquesne and Toledo, how are transmission charges handled on those sales?

EAK18

MR. BUCKHAM: Would you read the last part of that?

(The reporter read the record as requested.)

THE WITNESS: There are no specific charges for transmission. Each of the CAPCO companies had contributed to the construction of transmission, of new transmission facilities that enabled CAPCO to get off the ground. So that they made their contributions based on lines that may have been added in a number of different places.

CHAIRMAN RIGLER: Part ofthe power would flow from the East Lake plant over the lines of Ohio Edison, if, in fact, power flow worked that particular way, is that correct?

You had described the fact earlier that you can't really trace the power flow?

THE WITNESS: Some of it would certainly go through the Ohio Edison system. As a matter of fact, there are CAPCO lines in the Ohio Edison system. One of the Famous Star lines has been designated a CAPCO line.

CHAIRMAN RIGLER: But Ohio Edison doesn't receive any compensation for the use of itslines or the CAPCO lines in its territory to cover the sale of power from the East Lake plant into the Duquesne system?

THE WITNESS: No specific contribution for that specific transmission or transaction.

EAK19

BY MR. BUCHMANN:

Q That prompts me to ask something. When those sales are taking place, would it be correct that some of that power would flow out the eastern end of your system, through PENELEC and down to Duquesne?

A It will flow through all of the interconnections.

Q PENELEC doesn't collect anything from Duquesne?

A That is correct.

CHAIRMAN RIGLER: Staff?

MR. REYNOLDS: Mr. Chairman, I guess just as a matter of record, we ought to getthe order straight as to who is going to go forward with cross-examination, whether the other Applicants would wait --

CHAIRMAN RIGLER: I would prefer to have all of the Applicants at once.

MR. REYNOLDS: I have no further questions of this witness, but since this is the first witness the Applicants have, I want to make it clear the order we are going in.

CHAIRMAN RIGLER: You are correct in the assumption that I will take the other Applicants next.

MR. REYNOLDS: We will make an effort in every case to consolidate the interrogation of the Applicants through single counsel and no more than two, if that should be necessary. But I was trying to get the order straight. I

EAK20

don't have any further questions on behalf of other Applicants of this witness.

CHAIRMAN RIGLER: Procedurally, while we are on this point, I will call on the Staff first ordinarily, and then Justice and then the City.

But I want the cross-examination consolidated to the maximum extent possible which may mean in some cases, you may wish to rotate the order among yourselves as to who would play the lead role so that the burden doesn't always fall on Mr. Lessy.

Maybe the City and Staff and Justice can discuss this among themselves.

VOIR DIRE EXAMINATION

BY MR. LESSY:

Q Did you base your testimony today on your experience with the CEI, your knowledge acquired while working at CEI, your skill and educational background and degrees you outlined first thing this morning?

A Yes.

MR. LESSY: I would like the witness excused.

CHAIRMAN RIGLER: You may leave the stand for a minute.

(Witness temporarily excused.)

MR. LESSY: I am starting, Mr. Chairman, with the assumption that Mr. Bingham is a witness on behalf of the

EAK21

Cleveland Electric Illuminating Company and Federal Rule 702, the Advisory Committee's notes provide, "Similarly the expert is viewed not in the narrow sense but as a person qualified by knowledge, skill, experience, training or education."

The Staff would submit that the witness is an expert witness on behalf of the Cleveland Electric Illuminating Company. Further, I refer the Board to the prehearing conference dated April 21, 1975, the transcript page 1028, specifically lines 22 through 25, where the Chairman asked me with respect to expert testimony which had to be filed, "What is the technical area we are in?" I answered, at lines 8, "Engineering and economics, power supply engineering."

The Chairman said at line 10, "By engineering, what sort of testimony do you anticipate." At lines 12 through 21 I outlined a review of agreements. At lines 22 through 25, I said, "So to some extent, the testimony is going to be involved withthe language of the industry, 138 kilovolts, transmission lines, generating capacity, et cetera. That takes some time to digest."

I suggest that Mr. Bingham's testimony is in the nature of expert testimony and that we arrive at a beneficial time when he can be brought back for cross-examination after the parties have had opportunity to read the

EAK22

testimony as if it were filed in advance in writing.

As to the date or times when he should be brought back, I would leave that to the consensus of the other parties and the Board.

I think based on the nature of his testimony today, that immediate cross-examination should not be required, especially in light of the Board's sixth prehearing conference order that required that expert testimony be filed in advance in writing. I think the exact language was 'Applicants shall file the direct written testimony of their expert witnesses no later than October 31, 1975."

I think everyone will recall at the April 21, '75 prehearing conference there was a great amount of discussion as to who an expert was and was there a difference between an in-house expert and an out-house expert.

Be that as it may, it would be beneficial to bring him back, both to the parties and the Board. I am afraid we have a fair amount of cross-examination for this witness, speaking for the Staff.

MR. CHARNO: Mr. Chairman, in limited part, this witness' testimony would classify him as a CAPCO expert witness. I agree with Mr. Lessy's definition of expert. In large part, he is a CEI expert.

He drew a number of inferences with respect to rate design, interconnections, and use of benefits of interconnections, the technology of power flows, both inside

EAK23

and outside of CEI. I think he is an expert and those are inferences drawn by an expert and properly so, notwithstanding the fact that the witness illustrated and justified his inferences with factual examples drawn from his experiences.

It is proper for an expert and it is the preferable way for an expert to testify. We would suggest at that point that since Mr. Bingham is going to be appearing before us again, and testifying strictly with respect to factual matters, it might be appropriate to defer his cross-examination since the Applicants will bring him back anyway and have an opportunity at that time to cross-examine him with respect to his testimony today.

CHAIRMAN RIGLER: Had you intended to bring Mr. Bingham back?

MR. BUCHMANN: Yes, sir, but for different purposes. You will note I did not get into with Mr. Bingham, the specific relationships of the company with the City of Cleveland and similar problems.

I think the only time it came in was on interrogation from the panel. He is listed as one of our fact witnesses. It was my intention to bring him back on the specific CEI case, what I call the CEI case. I offered him today, as I said at the beginning, because it seemed to me that it would be helpful to have at the outset here and

EAK 14

probably it would have been more helpful to have at the outset of the whole hearing, but this was the first opportunity I had to do it, some explanation of the specifics of the workings of an electric system.

Ido not think I have -- and I will agree that Mr. Bingham is an expert. He was not offered here as an expert. Unless I slipped and I didn't hear anybody making many objections, I did not ask questions other than questions related to his own personal, specific knowledge of the CEI system and its relationship with the people.

I did not ask for his opinion or for him to draw inferences.

CHAIRMAN RIGLER: What Mr. Hjelmfelt's position is should be placed on the record next.

MR. HJELMFELT: I join in the motions of the Staff for the same reasons expressed by Mr. Lessy and Mr. Charno. I state at this point, the City would be prejudiced if it had to go ahead and attempt to conduct cross-examination on what I believe is expert testimony, without having the benefit that Applicants have had to review our expert testimony.

MR. BUCHMANN: What I am not sure of is if I am correct, and this is a fact witness, I hear that there is lots of cross-examination. About what? Whether a pulverizer was shown on the plan or whether CEI has the interconnections and contracts? Unless they are trying to adduce expert

EAK25

testimony, I have a little trouble knowing what we are talking about.

CHAIRMAN RIGLER: I don't think the objection posed under Rule 702 is well-founded. It seems to me that any witness called by a company, be it the president of the company or the general counsel or one of their engineers, is going to have scientific or technical knowledge.

Otherwise, he wouldn't be called as a fact witness. That hardly will make each of these individuals an expert. I must say I do think the testimony was limited to facts related to CEI.

Had it not been, we were prepared to sustain objections. On the other hand, I am surprised to hear that Mr. Bingham intends to return. I had not reviewed the witness list recetly to catch the fact you intended to call him in two capacities.

That does disturb me.

MR. REYNOLDS: If I could speak to that, I believe when we were outlining the nature of the case, or the order of the case, back on April 5, I indicated that the witnesses that were going to be testifying in this general introductory matter might be called back in their proper order when we got to the case of the company he happnes to be associated with.

CHAIRMAN RIGLER: I hadn't realized it was as firm,

EAK26 1 a commitment.

2 MR. REYNOLDS: It was for the orderly progress
3 of things. CEI's fact case is one scheduled to follow the
4 fact cases of the other Applicants. It would be more
5 appropriate we felt, to wait on the direct interrogation
6 of Mr. Bingham that would focus on that aspect of this case
7 and to bring him in for the purposes we indicated today,
8 as an introduction to the Applicants' case and that is the
9 way we have structured the examination today.
10 It has been carefully limited so we do not get into
11 an area we think is more appropriately dealt with when we have
12 the CEI witnesses before the Board.
13 CHAIRMAN RIGLER: The problem is that the
14 Board accepted Mr. Buchmann's invitation to explore questions
15 with the witness as they came up. It has already been
16 indicated by Mr. Buchmann that we may have cross into some
17 of the areas reserved for later examination.
18 MR. BUCHMANN: I have no objection to reserving
19 the cross-examination to a later time or going into it now.
20 Whichever the panel pleases. The only thing you touched on
21 which I didn't have was the question of the relationship
22 of the CEI, Muny rate to the other rates.
23 That was the only subject I would have myself
24 reserved for later on.
25 CHAIRMAN RIGLER: I am leaning against the

EAK27 1 opposition parties with respect to the expert nature of
2 his testimony. However, I am sympathetic to their point
3 about prejudice if they have to cross examine him and you
4 got to bring him back beyond that. It seems that could
5 create problems for them.
6 I don't think orderly procedure would be served by
7 having them cross-examine his only on the limited amount of
8 his testimony and then have you bring him back and perhaps
9 even inadvertently rehabilitate him with respect to that
10 cross-examination.
11 MR. BUCHMANN: I can rehabilitate him here on redirect
12 if there is any need, although I do not expect there to be a
13 need. I will limit his participation when he comes back,
14 if you would like to do that. I must confess, Mr. Rigler, I
15 don't feel strongly about this.
16 CHAIRMAN RIGLER: Are you prepared to go ahead? --
17 Are you prepared to go ahead and finish Mr. Bingham's
18 testimony?
19 MR. BUCHMANN: Frankly, I am not. I think they
20 can go forward. But if they wish to wait six weeks, I
21 object but I am not going to try to take an appeal on this.
22 CHAIRMAN RIGLER: I think I will confer with
23 my colleagues on this. We will take five minutes.
24 (Recess.)
25

S31
bwl

CHAIRMAN RIGLER: The Board has had an opportunity to confer with respect to the 702 objection, I think we all agree that that cannot be sustained.

On balance, we are sensitive to the point of prejudice, if you have to cross-examine him piecemeal. We think you are entitled to have his complete testimony, before you begin the cross-examination, so the Board is not going to require any of the three opposition parties to commence cross-examination at this time.

On the other hand, it is also our observation that a lot of the testimony is noncontroversial. Without trying to push you into it, if it is possible to begin cross-examination and any party desires to do so, we would probably save time that way.

I will give the three parties a moment to confer and see if you can use the 20 minutes today.

If you don't want to, we will not make you.

(Staff, Departmentof Justice and City of Cleveland conferring.)

CHAIRMAN RIGLER: Let's go on the record. I should announce we have had discussion among the parties, and we have decided to defer cross-examination of Mr. Bingham, unless his full examination is complete.

MR. BUCHMAN: I don't remember whether your RULING ON THE motion was on the record or off.

bw2

CHAIRMAN RIGLER: The motion was first to treat his entire testimony as expert testimony. That was denied. The motion further was to extend the time for cross-examination and that was granted.

MR. REYNOLDS: Turning to other matters, I want to state on the record that the Applicants have made the decision with respect to the testimony earlier filed by Mr. Owen Lenz on behalf of all of the Applicants, that it now appears there is no need to go through his testimony and to introduce that into evidence.

The decision is largely based on the fact that, in effect, his direct testimony has already been covered very thoroughly in the direct and cross-examination of the witnesses that have been presented by the other parties.

In order to expedite this hearing, to conserve both the time and avoid duplication of the record we have decided not to proceed with Mr. Owen Lenz as a witness.

That means we will start with Mr. Slemmer on MOnday, th 26th, and he will be followed by Mr. Firestone and I would say that the only other explanation I need to give is that I have been advised by Mr. Olds that it is impossible, because of his schedule to commence the Duquesne Light case before the 29th.

If we should, by chance, finish with

bw3

Slemmer and Mr. Firestone short of the three days there is that scheduling problem.

I don't anticipate we will be done so, and I have allotted the three days for those two witnesses.

If they should spill to the 29th, we can commence on the 4th of May with the Duquesne Light case. While I have the floor I would also like to suggest that the motions that have been filed by the Applicants be responded to in accordance with the time requirement under the rules.

We ran into some difficulty with respect to service and getting the material delivered by hand.

In light of that, it would seem to me appropriate that the procedural time limit that is contemplated for service by mail as opposed to by hand would be appropriate in the circumstances.

But a suggestion I believe made off the record of 30 days by the Department would give the Department twice as many days to respond as Applicants had to prepare the motion.

The 15 days the Applicants had for the recess was interrupted by a religious holiday of four days, plus the additional task of preparing the direct case.

It seems the 30-day suggestionis a bit inequitable under the circumstances.

CHAIRMAN RIGLER: On the other hand, the days

bw4

during which we were in recess were uninterrupted days where as the parties now are going to have to be at the hearing and preparing their cross-examination at the same time they will be preparing their responses.

MR. REYNOLDS: I'm not sure they were uninterrupted days.

CHAIRMAN RIGLER: Nonhearing days.

MR. REYNOLDS: There is more than one attorney representing the Staff and City. Whether we have 180 that the Department has to draw on as someone suggested the Applicants had to draw on, I'm not sure how the numbers come out.

We are talking, however, about more than one attorney and I'm not sure the interruption is as dramatic as we are hearing.

MR. CHARNO: As Mr. Reynolds suggested, we feel that 30 days would be, if limited, an appropriate time of response for the six motions prepared by the different Applicants and all of the Applicants collectively. They go to every aspect of the case. They go to issues of law and into the facts quite extensively.

I think it is going to be a comprehensive job briefing them, and we will be tied up in the hearing, presumably, on a full-time basis between now and the time we have to file our answers.

ES31

It is my understanding, and I have been advised that the city joins me in this request and that the staff has no opposition to the request for 30 days in which to respond to Applicants' motion to dismiss.

CHAIRMAN BIGLEN: Your proposal is 30 days, and Mr. Reynolds, yours is eight days, except for the staff, which gets 13.

MR. REYNOLDS: Unless management of the staff is still holding to one week on any kind of extension, then I hold to the one week, which was suggested for our needs.

Let me add, I would be willing to an accommodation to the extent we could get responses out of the other parties, to specify motions prior to the time that the case of the Applicant is being presented.

For example, the Cleveland Electrical Illuminating Company is scheduled to go on far down the road. On the other hand, Duquesne Light Company is scheduled to go on May 3, and Ohio Edison and Pennsylvania Power May 10th, with Toledo Edison following some time the week of the 17th.

If we could have a staggered schedule which would enable the responses to be made within a time frame so that we can get rulings on the motions prior to the time that the cases are put on, I would be receptive to that kind of staggered schedule.

I really do have a lot of difficulty with a 30-day

eh 2 extension before answering all of the papers and having us
2 proceed down the road with our entire case or a good portion
3 of it before we hear anything.
4 CHAIRMAN RIGLER: We would be addressing the motion
5 on behalf of all Applicants to dismiss all allegations left
6 in that staggered schedule.
7 MR. REYNOLDS: I suggest that would be the first
8 one appropriately. It seems to me --
9 CHAIRMAN RIGLER: That is the most lengthy.
10 MR. REYNOLDS: If the other parties cannot prevail
11 on that motion, then we can save everybody a lot of time and
12 effort in this case. That is obviously one of the intents
13 underlying the motions and consistent with the public interest,
14 the Chairman has indicated he is most interested in or very
15 interested in.
16 CHAIRMAN RIGLER: In order to prevail on that
17 motion, their burden would be to show that one single
18 allegation is viable. Is that correct?
19 That would defeat the motion, wouldn't it?
20 MR. REYNOLDS: That one single allegation --
21 CHAIRMAN RIGLER: Is viable.
22 MR. REYNOLDS: Depending on how we define viable.
23 I am not sure what you mean by viable. If you are saying if
24 they could demonstrate that under the applicable standard
25 that there is an allegation which the evidence sufficiently

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shows both meets the standard under the Section 105 -- meets the standard under Section 105 (c) both as to its inconsistency with the antitrust laws and as to its relationship to activities under the nuclear license, then, yes, that would be correct.

What I am suggesting, Mr. Chairman, is if there is but one allegation that is left in this case, in order for it to be viable, as you suggest, it would have to meet the criteria that is set forth under Section 105(c). That would be true if there were two or three.

CHAIRMAN RIGLER: How about the testimony of Mr. Lyren that the offer to sell power from the nuclear units in question was based on the municipality's agreement not to resell that power?

MR. REYNOLDS: As I say --

MR. PERI: Mr. Chairman, may we have a moment to confer?

MR. LESSY: I want to note that the principal Duquesne witness was Mr. McCabe, who testified on the 8th of December. I haven't seen the motions today been as they were delivered as we went into the hearing.

But to suggest that we should file and answer within the next four or five days before Duquesne starts its case is outrageous.

MR. REYNOLDS: I thought you said we could confer,

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and I realize something slipped by me.

CHAIRMAN RIGLER: We will have that read back to you.

(The reporter read the record as requested.)

MR. REYNOLDS: I think that what I am suggesting is that one, I don't think that the time limits imposed by the rules are outrageous. The rules, obviously, have contemplated a short period of time for responding to motions.

I suggest that these motions are precisely the kind of motions that do fit within the rules. I must say that I am not too persuaded by the fact that because there are six or seven motions, that that should prolong the time period.

We are all lawyers, and we are in an antitrust litigation. It doesn't matter how many motions are served at whatever time. It seems the rules should apply and should apply equally, however, whatever the volume and whatever the number.

I have suggested that I am willing to an accommodation with respect to staggered responses in order to have some ruling from the Board, if possible, before each of the respective Applicants start their cases on the specific motions that have been filed by each of the Applicants, which would mean a ruling in the order that we have scheduled those cases to be presented.

In response to the Chairman's question, I feel that the motion to be dealt with appropriately first is Applicants' general motion to dismiss all of the allegations, and I would, in more specific response to the question of the Chairman as to Mr. Lyren's testimony, I would agree that if the Board were satisfied that testimony by Mr. Lyren did, in fact, prove what the Chairman has characterized or suggested that it might show, if in viewing his testimony and the cross-examination, the Board comes to the conclusion that that testimony proves a situation inconsistent with the antitrust laws under Section 105(c) and, in addition, is satisfied that the nature of the inconsistency is such as to warrant the relief that the other side has requested in the form of license conditions, that that would then be an appropriate basis for the Board to deny the motion.

I think short of that it would be inappropriate for the Board to rest a denial of the motion on a single allegation, even if it should determine that that -- by a preponderance of the evidence the testimony of Mr. Lyren, assuming that to be the allegation showed an inconsistency with the antitrust laws.

I think it is also essential for the other side to prove its case, and hthe Board is now sitting as the trier of fact and, therefore, in a position to make a determination. It is required to prove its case fully by showing not only

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that there is an inconsistency, if indeed they can show that, but that the nature of the inconsistency is such as to warrant the relief that has been requested in this proceeding.

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CHAIRMAN RIGLER: I might disagree with you as to a matter of law as to the relationship between the relief and the nature of the inconsistency.

I would want to think about that. It seems different standards may have been stated on that in the Waterford case, for example.

The Board may have taken the approach to look first if there is an inconsistency relating to activities under the license. Having made that determination we fashion the relief as an inappropriate remedy which strikes me as a somewhat different standard than that you have enumerated.

MR. REYNOLDS: I suggest if, indeed, the Board comes to the conclusion that what we have in order to sustain the second step or justify the second step of going to relief is a single allegation which Mr. Lyren's testimony proves by a preponderance of the evidence is an inconsistency, then the appropriate course of this Board is to alter the hearing and address itself to what would be appropriate relief, in order to meet that inconsistency or cure that inconsistency.

CHAIRMAN RIGLER: I'm not sure I agree with you on that either.

MR. REYBOLDS: I was taking yourhypothetical. If we foundthat allegation what would be the

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obligation.

CHAIRMAN RIGLER: As a practical matter, the number of pages included within the various motions approximates 200 now. I counted to over 150 and I haven't finished adding all of the motions to that. It is unreasonable to think the parties could respond in five days, particularly since the hearing is going on at this time.

I think the concept of responding in staggered fashion has some merit. As I try to determine which would be answered first, I would put at the rear the Applicants' motion dismissing all allegations. I have not studied it carefully. I have perused it hastily. I'm not prejudging it anyway, but it seems to me the burden that you would have to meet, in order to prevail on that motion would be the highest burden of the various burdens raised by the six pending motions.

Your chances of prevailing would be less, just because you have to go so far.

There is so much included within it.

I'm not addressing myself to the merits of it right now.

MR. REYNOLDS: You are not suggesting on the basis of a different standard?

CHAIRMAN RIGLER: No, the standard is the same. It is just that so much is incorporated within it. The

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standard is the same. I might agree with the legal standards you have enunciated here. If we accepted untouched the legal standards you urge us to use in deciding the motions, there is so much encompassed within this, it is, in that sense, that the burden is the greatest.

MR. SMITH: If you should prevail on that motion, what would be the status of Applicants Exhibit 64, the conditions?

MR. REYNOLDS: The status at the moment is that those are the policies of the company and to the extent that anybody comes in and requests access, they would be afforded access under those terms in the contracts.

If you are asking would we accept these as license conditions in the event that the Chairman's example were followed through and the Board were to reach the conclusion that there is but a single allegation which relates to Mr. Lyren's testimony and that that being the inconsistency, it is fully cured by imposing license conditions similar to Applicants Exhibit 64, that would be one solution to the case.

I'm not sure I understand what you mean by what the status is of it.

MR. SMITH: I would read your motion without having read it to ask that there be a dismissal of the charges, and thereby a recommendation of an unconditioned license.

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MR. REYNOLDS: I would suggest if the Board found that dismissal of the charges were warranted, then, certainly, there should be an unconditioned license.

I don't think that detracts or impacts on Applicants Exhibit 44. That is all I'm saying. I think if the Board should make a finding in this case that there is no inconsistency with the antitrust laws, then the recommendation would be an unconditioned license.

CHAIRMAN RIGLER: The Board will want to discuss this. We will come back to this subject at 9:30 on Monday morning.

We are not going to rule from the Bench now. It is too complex for that.

MR. REYNOLDS: It is my understanding we are waiting to Monday morning to talk schedule. Is the time running at least so that we can have some assurance that the other parties should move forward now rather than waiting?

CHAIRMAN RIGLER: The other parties should be preparing their responses, but it is clear we will not hold them to the suggested period in the Rules. They will get an extension, but the question is how much.

MR. LESSY: Not only are we in hearing four days a week, but we are in part of the hearing where our roles are active with respect to cross-examination of expert

and fact witness.

bw5 CHAIRMAN RICHER: We will see you Monday morning.

(Whereupon, at 4:40 p.m., the hearing was adjourned, to be reconvened at 9:30 a.m., on Monday, April 26, 1976.)

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