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In the Matter of an Examination of Class Cost of Service and Rate Design in the Missouri Jurisdictional Electric Service Operations of Aquila, Inc., Formerly known as UtiliCorp United, Inc.	) Case No. EO-2002-384

KEVIN A. THOMPSON, Presiding,
DEPUTY CHIEF REGULATORY LAW JUDGE.

JEFF DAVIS, Chairman,
CONNIE MURRAY,
STEVE GAW,
ROBERT M. CLAYTON,
LINWARD "LIN" APPLING,
COMMISSIONERS.

REPORTED BY:
KELLENE K. FEDDERSEN, CSR, RPR, CCR
MIDWEST LITIGATION SERVICES

APPEARANCES:

JAMES C. SWEARENGEN, Attorney at Law
JANET WHEELER, Attorney at Law
Brydon, Swearengen & England, P.C.
312 East Capitol
P.O. Box 456
Jefferson City, MO 65102-0456
(573)635-7166

FOR: Aquila, Inc.

MARK W. COMLEY, Attorney at Law
Newman, Comley & Ruth
601 Monroe, Suite 301
P.O. Box 537
Jefferson City, MO 65102
(573)634-2266

FOR: City of Kansas City, Missouri.

JEFFREY A. KEEVIL, Attorney at Law
Stewart & Keevil
Southampton Village at Corporate Lake
4603 John Garry Drive, Suite 11
Columbia, MO 65203
(573)499-0635

FOR: The Empire District Electric Company.

SHELLEY WOODS, Assistant Attorney General
P.O. Box 899
Supreme Court Building
Jefferson City, MO 65102
(573)751-3321

FOR: Missouri Department of Natural Resources.

STUART CONRAD, Attorney at Law
Finnegan, Conrad & Peterson
3100 Broadway
1209 Penntower Officer Center
Kansas City, MO 64111
(816)753-1122

FOR: Sedalia Industrial Energy Users Association.

WILLIAM D. STEINMEIER, Attorney at Law
MARY ANN (GARR) YOUNG, Attorney at Law
William D. Steinmeier, P.C.
2031 Tower Drive
P.O. Box 104595
Jefferson City, MO 65110
(573)734-8109

FOR: City of St. Joseph.

CRAIG PAULSON, Attorney at Law
2966 Sidewinder Street
Tyndall AFB, FL 32403
(850)283-6348

FOR: Federal Executive Agencies.

LEWIS MILLS, Public Counsel
P.O. Box 2230
200 Madison Street, Suite 650
Jefferson City, MO 65102-2230
(573)751-4857

FOR: Office of the Public Counsel
and the Public.

NATHAN WILLIAMS, Associate General Counsel
P.O. Box 360
200 Madison Street
Jefferson City, MO 65102
(573)751-3234

FOR: Staff of the Missouri Public
Service Commission.

P R O C E E D I N G S

JUDGE THOMPSON: We are here in the matter of an examination of class cost of service and rate design in the Missouri jurisdictional electric service operations of Aquila, Inc., formerly known as UtiliCorp United, Inc. This is Case No. EO-2002-384. My name is Kevin Thompson. I'm the Regulatory Law Judge assigned to preside over this hearing. We will take oral entries of appearance at this time, beginning with Aquila.

MR. SWEARENGEN: Thank you, Judge. Let the record show the appearance of James C. Swearengen and Janet Wheeler, Brydon, Swearengen & England, P.C., 312 East Capitol Avenue, Jefferson City, Missouri, appearing on behalf of Aquila, Inc.

JUDGE THOMPSON: Thank you. I will go through the rest of the parties alphabetically, leaving the statutory parties for last. AARP?

(No response.)

JUDGE THOMPSON: Ag Processing, Sedalia Industrial Energy Users Association?

MR. CONRAD: Your Honor, let the record show the appearance of Stuart W. Conrad, Finnegan, Conrad & Peterson, 3100 Broadway, Suite 1209, Kansas City, Missouri, on behalf of the aforenamed parties.

JUDGE THOMPSON: Thank you. Calpine?

(No response.)

JUDGE THOMPSON: Missouri Department of Natural Resources?

MS. WOODS: Good morning, your Honor. Let the record reflect Shelly A. Woods, Assistant Attorney General, Post Office Box 899, Jefferson City, Missouri 65102, appearing on behalf of the Missouri Department of Natural Resources.

JUDGE THOMPSON: Thank you. Empire District Electric Company?

MR. KEEVIL: Yes, your Honor. Appearing on behalf of the Empire District Electric Company, Jeffrey A. Keevil, 4603 John Garry Drive, Suite 11, Columbia, Missouri 65203.

JUDGE THOMPSON: Thank you. Federal Executive Agencies?

MR. PAULSON: Thank you, your Honor. Appearing on behalf of the Federal Executive Agencies, Major Craig Paulson, 139 Barnes Drive, Tyndall Air Force Base, Florida.

JUDGE THOMPSON: Thank you. Jackson County?

(No response.)

JUDGE THOMPSON: City of Kansas City?

MR. COMLEY: Appearing on behalf of the

City of Kansas City, let the record reflect the entry of Mark W. Comley, Newman, Comley & Ruth, 601 Monroe, Suite 301, Jefferson City, Missouri.

JUDGE THOMPSON: Thank you, sir. City of St. Joseph?

MR. STEINMEIER: Appearing on behalf of the City of St. Joseph, Missouri, let the record reflect the appearance of William D. Steinmeier and Mary Ann (Garr) Young, William D. Steinmeier, PC, P.O. Box, 104595, Jefferson City, Missouri.

JUDGE THOMPSON: Thank you. Staff of the Missouri Public Service Commission?

MR. WILLIAMS: Nathan Williams, Senior Counsel, Dana K. Joyce, General Counsel, P.O. Box 360, Jefferson City, Missouri 65102, appearing on behalf of the Staff.

JUDGE THOMPSON: Thank you. Public Counsel?

MR. MILLS: Lewis Mills. My address is Post Office Box 2230, Jefferson City, Missouri 65102, appearing on behalf of Public Counsel and the public.

JUDGE THOMPSON: Thank you. Have I inadvertently missed any party? Okay. Does anyone have any pending matters or anything we need to take up before we go into the hearing?

(No response.)

JUDGE THOMPSON: We will mark exhibits before we take testimony. Mr. Keevil?

MR. KEEVIL: Judge, it's not pending, but I would ask leave to be excused throughout portions of the hearing, if that's necessary.

JUDGE THOMPSON: Okay. I have no problem with parties coming and going during the hearing or just not attending the hearing. I will say that the Chairman told me that he didn't want anyone to leave before he got here. So if you could just wait until we start opening statements and have all the Commissioners here, and then you'll be allowed to leave shortly thereafter, and you don't have to come back or whatever. All right?

MR. KEEVIL: Thank you.

MR. STEINMEIER: Your Honor, begging your pardon. And that principle applies to other counsel as well?

JUDGE THOMPSON: All counsel, yeah. I meant that for everybody. Although if you have a witness here and you're not here, of course the Commission can pretty well go by itself for -- okay. Let's go ahead and mark exhibits.

(AN OFF-THE-RECORD DISCUSSION WAS HELD.)

(EXHIBIT NOS. 1 THROUGH 24 WERE MARKED FOR

IDENTIFICATION BY THE REPORTER.)

JUDGE THOMPSON: We're ready for opening statements at this time. We will start with Aquila.

MR. SWEARENGEN. Okay.

JUDGE THOMPSON: We will do opening statements in the same order in which we did the entries of appearance. So that would be Aquila, followed by the Intervenors, followed by Staff and Public Counsel last, unless someone has a real concern with that order. Very well. You may --

CHAIRMAN DAVIS: Judge, can I ask a question? Where's DNR, are they here?

JUDGE THOMPSON: Yes, they are.

CHAIRMAN DAVIS: And where is AARP?

JUDGE THOMPSON: AARP is not here, Calpine is not here, and Jackson County is not here.

CHAIRMAN DAVIS: Okay. I may have some interrogatories I want to send those parties, Judge.

JUDGE THOMPSON: Yes, sir.

CHAIRMAN DAVIS: Were they given leave to not be present today?

JUDGE THOMPSON: No, sir.

CHAIRMAN DAVIS: Okay.

JUDGE THOMPSON: You may proceed, Mr. Swearengen.

MR. SWEARENGEN: Thank you, Judge. May it please the Commission? My name is Jim Swearengen. I'm appearing here today on behalf of Aquila, Inc.

I think the Commission is probably aware -- I hope the Commission is aware that this cost of service and rate design case was initiated almost four years ago as a part of a then pending Aquila electric rate case, Case No. ER-2001-672. You have been provided with Prehearing Briefs from all of the parties who are actively participating in this case, and those Briefs set out the history of this proceeding over the last three-plus years.

Those Briefs I think do a fine job of setting out the evidence that has been developed, and also set out the issues that are now before you for your consideration and decision. And it's not my intention this morning to go over all of that and repeat or summarize the material in those Briefs. Others may want to do that.

What I'd like to do is call to your attention and point out that some of the parties to this proceeding apparently have now lost sight of what has been agreed to among the parties as to the purpose of this proceeding and what, in fact, has been ordered by the Commission as to the purpose of this proceeding.

And I say that because last Friday at four

o'clock when the Prehearing Briefs were filed, a reading of the Staff's Brief indicates that, in essence, what the Staff is asking the Commission to do, as they have previously, is to consolidate this case with Aquila's now pending electric rate case and base your decision on this cost of service question on a new cost of service study to be developed in the context of that proceeding.

As I read the Staff's Brief, the only issue that the Staff would have you decide in this case, after almost four years of work, hard work by all the parties, is the allocation issue. And we think that approach is totally inconsistent, because I indicated prior agreements, understandings and orders. And with respect to that, I would call your attention that as recently as August 23rd of this year, the Commission issued an Order regarding this consolidation question.

And I would refer you to the last paragraph on page 7 of that Order where this Commission said, having considered the points raised by the parties, the Commission agrees with SIEUA, FEA and Aquila that the best course would be to resolve this class cost of service case separately from the rate case now pending. That will permit the class cost of service issues and rate design issues to be resolved separately from the revenue requirement issues that generally receive most of the

attention in a rate case. It will also reduce the number of issues to be presented and determined in a rate case. For these reasons, the Commission will deny the Staff's motion to consolidate the cost of service case with the pending electric rate case.

In its Brief -- in its Prehearing Brief filed last Friday, the Staff cites as a reason for its request the fact that it's having some problems with a new cost of service study that it apparently has developed for the pending electric rate case. But we do not believe that that situation should be an excuse to abandon all of the work that's been done over the last three and a half years by all the parties in this proceeding.

Everyone I think in this case has studied and worked with the data that's been collected and has utilized that data in presenting their views as to what direction the rates should be adjusted to meet the standards that are dictated by cost-based rates. And I'm unaware that there are any problems with that data that have not been resolved and worked out.

In the company's Prehearing Brief we had attached an Exhibit A, which I would like to hand out to the Commission at this point and focus the remainder of my comments on that document, if I could, please.

JUDGE THOMPSON: Do you want to go ahead

and get that marked?

MR. SWEARENGEN: I can.

JUDGE THOMPSON: Why don't we do that, just because I think it will be easier. This will be Exhibit A from Aquila's prehearing brief. That will be Exhibit 25.

(EXHIBIT NO. 25 WAS MARKED FOR IDENTIFICATION BY THE REPORTER.)

JUDGE THOMPSON: What period of time does this represent, Mr. Swearengen?

MR. SWEARENGEN: On Exhibit A?

JUDGE THOMPSON: Yes, sir.

MR. SWEARENGEN: It represents the current period. In other words, we've looked at the data that has been collected since the 2001 rate case. It's been updated through the last rate case, and so this is current, current information, cost of service information based on the existing rate levels.

JUDGE THOMPSON: Thank you.

COMMISSIONER GAW: This is a comparison of the change that would result if rates were maintained at the same level?

MR. SWEARENGEN: That's correct. If I could just take a minute or two and kind of walk you through that. Whether you-all had an opportunity to

review this or not in the context of the Brief that we filed, I'm not certain. But what this document is intended to show is the recommendations of the parties that have filed class cost of service studies for the various rate classes. And at the top half of that page you see first of all the recommendations for the MPS operating division, and on the lower half the recommendations for the Light & Power or the old SJ LP division.

And I just want to make a couple comments about that. I think looking at the document you will -- you will see that there is consensus among the parties on the direction of the rate adjustments, several of the categories. For example, I think all parties agree that the small general service, the SGS rate class and the large general service rate classes for both MPS and L&P should be reduced. It's just a question of by how much, but the indication is they ought to be reduced.

It is when you get over to the residential and the large power classes that significant disagreements start to appear. For example, if you look at the very first line on Exhibit A where the Missouri Public Service residential rates are shown, the company's cost of service study would indicate that the residential rate should be increased by approximately 8.22 percent. The Staff shows

an increase of 3 percent. The industrial intervenors indicate a 9-plus percent increase, and it's only when you get over to the Public Counsel study that you see a slight decrease in that category.

And then if you would look at the large power service recommendations for the MPS division, the company indicates almost 7 percent reduction. The Staff shows a slight increase, a percent increase. The industrials show an 8.56 reduction, and the Public Counsel shows a 9 percent increase. So there you have a swing, 9 percent increase recommended by the Public Counsel, 8.56 percent reduction recommended by the industrials.

If you look down on the Light & Power portion of the exhibit, once again under the residential you'll see the company's recommending a 6.88 percent increase, the Staff is at 3.48, the industrials 13.56 and the Public Counsel comes in with a slight increase, .7 percent. If you drop down there to the large power service, once again you'll see the company recommending a slight decrease, Staff recommending about a 5 percent increase, and then we have the industrials 8.89 decrease, Public Counsel 8.45 increase.

Now, none of that should really be surprising, I suppose, when you keep in mind that the Public Counsel's representing a client, the residential

customer, and obviously the industrials are looking after their own interests. But I think this is -- this document is a good summary and indicates that in several instances there is consensus on the direction that these adjustments should go.

The other thing to keep in mind is that this is intended to be revenue neutral to the company, and that the company really has no other agenda here, other than seeing that the rates that it has in place are based on cost of service.

With those comments, I appreciate your attention and I will sit down. Thank you.

JUDGE THOMPSON: Thank you, Mr. Swearengen.

AARP has not arrived in the interval. Ag Processing, Sedalia Industrial Energy Users Association, Mr. Conrad?

MR. CONRAD: Good morning, Judge, and may it please the Commission? We also, along with Mr. Swearengen, have been enjoying reading the various Briefs of the parties. And by the way, I'm glad to see that Judge Gaw is back. I understood you had some exciting times there. I had some exciting times myself this past week. My mother-in-law decided it was her time to go, and so we had a fun time over the weekend.

I want to start out here, and I will try to be brief and not re-cover ground that either Mr. Swearengen has covered or that we have attempted to address in our Prehearing Brief, but I wanted to mention to you who our clients are. The Sedalia Group is, as its name suggests, is a group of industries, industrial concerns based in and around Sedalia, Missouri who are larger users of electric service. Ag Processing is a large electrical customer, but actually a larger steam customer that doesn't concern us here today. We're focusing on the electric side up in the St. Joe area.

I feel somewhat on class cost of service case like this and particularly -- particularly this one like I've been struggling to get the run-away bride to the altar. This has been -- it's been a long, a long struggle to get here. As Mr. Swearengen mentioned, this case was initiated almost -- I don't mean within days, but three or four months, I think, of being almost four years old.

It was been preceded by a load research study in which for the better part of a year, in fact perhaps more than a year, data, actual data was collected from customers of all different categories in both service territories of the utility. That was preceded by some technical discussions among the various experts of all those who wished to participate in how that study was

designed.

You obviously don't collect load research data from every single customer, so you've got to figure out that you've got a representative sample and what data it is that's to be collected and over what time period, so that the data that is being collected will be useful.

One of the problems that we have is -- my clients often have in these proceedings, and by that I mean to include rate cases where we have class cost of service issues, is when we get to the rate case and we do class cost of service studies and it shows that the rates are not in balance, we're never able to seemingly get a change implemented because we don't have adequate data. Conversely, when we get adequate data, the claim that we're faced with then is that, by the time we get through the process, the data is stale.

True to form, in its last round of testimony, Public Counsel used that wonderful phrase, that the data is now stale and should be ignored. Well, the problem is that it takes a while to collect load research data. You have to do it over a year, and then I think some people would even say that you have to validate that data over a subsequent period in order to be sure that you've got the right stuff that you wanted to get.

But it has been some ten years since this

utility or even part of it now has had a review of its rate structure. This case was set up by stipulation. As I have mentioned in our Brief, and we actually passed -- Mr. Chairman, to your question, we actually passed through what we call -- what I call the 0034 case, which was the case, the rate case for Aquila before the one that we're in the middle of now, and for the most part it was -- it was done in a way to try to preserve the validity of the load research data in that case. So we did in midstream make a bunch of relationship changes.

I talked in our Prehearing Brief, probably excessively lengthy, about some of the principles of regulation, and I won't attempt to re-cover those because I think -- I would like to hope that the point there is made, but I would raise two additional points that I think are pertinent here.

Mr. Swearengen indicates in his comments that this is intended to be, always was intended to be a revenue neutral case, that is to adjust in compliance with 393.130 the rates of this utility so that there are no undue preferences, that we're charging the same to all likely situated customers, that we're charging at least a nondiscriminatory rate, that is not a rate that is not unduly discriminatory.

The point that sometimes gets missed in

this, and Mr. Swearengen says Aquila does not have an agenda, and I understand the sense in which he makes that comment, but actually Aquila does. Let me tell you what that agenda is. When a utility has rates that are not aligned with how its costs are incurred, changes to its load, additional customers, loss of customers, weather, warm summers, cold winters, whatever, all have an impact on the revenue earnings of that utility. When the costs change, and revenues do not change in alignment with the change in the cost, you have a situation in which the utility is forced back in, in the case of a gas utility, and you're seeing this frankly with 179, weatherization and conservation.

They're saying when we have a warm winter, we don't earn our return. Well, that's because too many fixed costs are being recovered in a -- in that case in a commodity. So that when the commodity sales go down or, in the case of an electric utility, when the KWH sales go down, they lose revenue and their earnings. So the utility does have an agenda in the sense of revenue stability and earnings stability.

And I would put the case to you that it is in the interest of the utility, significantly, and it actually is in the interest of the utility commission, the regulators, all the other customers, to have rates that

are aligned with how costs are incurred. Then when costs change for reasons beyond the utility's control, weather, customer growth, customer loss, disappearance, then the revenues match the changes in cost, and so the utility's earnings remain stable through those periods of time.

Now, we have put before you Mr. Brubaker's testimony. I think he is well known to the Commissioners as an authority in this field. He's done it for a long time. And he has put before you what we call the average and excess method, which, contrary to what some of our critics say, is not a peak responsibility method. We'll discuss that through the testimony.

But what I am met with in response, based on the Briefs, are cases that are almost 20 years old saying in entirely different circumstances and in entirely different utilities, and I think at least in one case I was there and I lived through that, and the thing that happened to us coming out of those cases is that even I think the Commission perhaps realized that they had gone too far, because what they did is they impacted very adversely on high load factor customers.

High load factor customers, which my clients fall in, are customers whose usage of energy is very consistent and is very consistent across a large number of hours. There's very little seasonality in their

usage structure, and so they use -- proportionate to the demand that they place on the system at any point in time, they use a large amount of energy.

And so increases on the energy side that are not related to the variable costs of actually generating the KWH and actually generating the energy raise their rates to a dramatic degree. And we saw coming out of the 1980s a very bad situation in the sense of the economic development for the State.

I don't like to suggest to you that you don't want probably to replicate that. The Commission has in recent days -- recent months, let's say, I think sought to move Missouri into what has been characterized as the mainstream of regulation. You've taken some steps in the return on equity or the capital structure area to move regulation in that direction.

You have taken some steps to move the depreciation calculation in that direction, to accord more in line with what is perceived to be the mainstream. Recently, the Legislature has jumped into the fray and said, we want to align the utility regulation in this state or certainly equip the Commission with the ability to align that more in accord with what we see the mainstream being so far as fuel adjustments and environmental costs.

I would suggest to you that, as the evidence will show, that a large number of states use the average and excess method, which is very similar to what the company had done. It is what Mr. Brubaker has done. And those minor differences can be explained through questions and cross-examination and examination of the testimony that's been filed.

And we believe it's really time to take a look at this part of the equation, too, to recognize the relationship between aligning costs and rates which will benefit the utility, benefit the customers, and in this regard bring Missouri back into the mainstream of regulation. Thank you for your attention.

JUDGE THOMPSON: Thank you, Mr. Conrad. I think there's some questions from Chairman Davis.

MR. CONRAD: Sure.

CHAIRMAN DAVIS: Mr. Conrad, you represent several industrial consumers?

MR. CONRAD: Yes, sir.

CHAIRMAN DAVIS: Both the Sedalia area, as well as the Joplin -- I'm sorry -- as well as St. Joe area, correct?

MR. CONRAD: St. Joe.

CHAIRMAN DAVIS: Have you lost any clients in the last few years? I mean, lost them completely?

MR. CONRAD: Yes.

CHAIRMAN DAVIS: Have they gone out of business?

MR. CONRAD: Yes.

CHAIRMAN DAVIS: Would you care to tell the Commission which ones have gone out of business?

MR. CONRAD: If memory serves me, and focusing on the area that this utility serves, the primary area of loss has been in St. Joe. The one that jumps to mind right now is Quaker Oats. They're gone. I believe -- and I'm struggling up there, because I know there are a couple of others and I can't think of the names.

If you move out of the area, the service area of this utility, there is, of course, a large one, and that's the JST Steel Works in Kansas City, which is, to my amazement, when I have recently driven up 435 between Independence and Kansas City, the stretch of 435 that goes by Worlds of Fun, I look out there to my left just before I cross the river, and what used to be what we call Melt Shop No. 2 is now just a vacant field, and there was hundreds of millions of investment that were put into that place.

I think at the time, Judge, that closed up, I think the employment was something like 8 or 900. Over

the years from the Armco period down to JST, it had eroded. I think a number of years ago it was maybe as much as 4,000. As far as St. Joe, I want to say Quaker had about 3 or 400 jobs.

CHAIRMAN DAVIS: Was Friskies, were they part of --

MR. CONRAD: Yes, thank you. Friskies actually is still up there, but they have shrunk their operation. They closed what they call their packers plant, and I believe there was also a can manufacturer, some steel -- made steel cans for pet food, and I believe that they closed or significantly reduced their operation in St. Joe with a significant layoff because the Friskies -- you know, these things are symbiotic. You know, you lose one, and on down the road.

CHAIRMAN DAVIS: Right.

MR. CONRAD: It's been a long time since I've looked at it, but my vague recollection is that the multiplier on an industrial job is something like a factor of 7 or 8, meaning that when you lose an industrial job, it's not just that job that gets lost, it's the total impact of that salary throughout the economy on barber shops, hair, nails, tan.

CHAIRMAN DAVIS: Right. I've certainly heard that claim alleged in the area of stadiums, which is

outside this forum. Wire Rope?

MR. CONRAD: Wire Rope, actually they went through a major reorganization, actually I believe a bankruptcy up there, and I think they have -- they still have an operation up there, Judge, but they have not chosen to hook their wagon behind yours truly, insofar as your original question as to whether I lost a client. I just don't think they're involved right now. I think they're probably still trying to build their business back.

I want to say there was another one, although it was not one of my clients. There was a -- I believe it was a Sherwood. I believe that name sticks in my mind, Judge, that there was a medical products manufacturer that was there along I-29 that has closed up several years ago. St. Joe's been hit pretty hard.

CHAIRMAN DAVIS: You're not aware of any new industry coming in per se, except that there's the one big plant that's being redeveloped that --

MR. CONRAD: There is the -- what I believe is called the Triumph, which is a -- they call it up there the pork plant. It's a pork processing company that is in the process of constructing a facility there in the area where the stockyards used to be. It's actually just south of where AGP's installation is along that -- near the Lake

Road generating station for Aquila. And I don't know -- right now, they are not a client of mine. I do not know what their -- what their employment prospects are. I know they're not insignificant, but --

CHAIRMAN DAVIS: So let me ask you this, Mr. Conrad. So would you say in the last ten years that industrial -- just anecdotally, has industrial demand for electricity decreased, grown, stayed the same?

MR. CONRAD: I think it's probably decreased. It's decreased for several reasons, but we've touched already on one of them, which is simply the loss of the industry and large commercial establishments that have gone elsewhere or have just simply closed up operations.

Another aspect of it that I think gets overlooked is efficiency and conservation. These companies, to borrow a phrase from an old Armco friend of mine, he came down one time a number of years ago and said, it's our responsibility to earn the best rate that we can, and they would do that by making sure that they were using the power that they used as efficiently as they could use it, because if they could save some dollars there, the dollars went directly to their bottom line.

So these companies, I think, have a -- have a vested interest, if you will, in efficiency and what you

might call conservation. I know that's currently a topic of debate, what constitutes conservation. But let's just say that probably over that period of time there has been a reduction in the use of power for at least those two reasons.

CHAIRMAN DAVIS: All right. Thank you, Judge. No further questions at this time.

JUDGE THOMPSON: Any other questions for Mr. Conrad?

(No response.)

JUDGE THOMPSON: Thank you, Mr. Conrad.

MR. CONRAD: Thank you, Judge.

JUDGE THOMPSON: Calpine, has Calpine arrived?

(No response.)

JUDGE THOMPSON: Missouri Department of Natural Resources?

CHAIRMAN DAVIS: Judge, when you reflect that those parties are not here, would you at least please state for the record that they are not present.

JUDGE THOMPSON: Yes, sir.

CHAIRMAN DAVIS: Thank you.

JUDGE THOMPSON: You may proceed.

MS. WOODS: Thank you. Good morning, Commissioners. Shelley Woods representing the Missouri

Department of Natural Resources Division of Energy, and I really don't have an opening statement. My client does not have any position in this matter and has not taken a position on any of the issues stated. So thank you.

CHAIRMAN DAVIS: I have a question for Ms. Woods.

JUDGE THOMPSON: Yes, sir.

CHAIRMAN DAVIS: Ms. Woods, does your client have positions on all the other issues in this case?

MS. WOODS: All the other issues in this case? None of the issues, we don't have a position on any of the issues in this case.

CHAIRMAN DAVIS: In this particular case, but in the rate case, does your client have positions on all the other issues?

MS. WOODS: No. Just on the energy efficiency and low income weatherization.

CHAIRMAN DAVIS: So just on energy and efficiency and low income weatherization?

MS. WOODS: Yes, that's correct.

CHAIRMAN DAVIS: So you wouldn't object then to settlements on any of those other issues?

MS. WOODS: No.

CHAIRMAN DAVIS: Thank you.

MS. WOODS: Thank you.

JUDGE THOMPSON: Empire District Electric Company?

MR. KEEVIL: We would waive opening statement, your Honor.

JUDGE THOMPSON: Thank you, Mr. Keevil. Federal Executive Agencies?

MR. PAULSON: Good morning, Commissioners, Judge. I'm Major Craig Paulson. I represent the Federal Executive Agencies. If I may digress for just a moment, although I am stationed in Florida, I do have what I would term significant contacts here in Missouri. I was stationed back -- my first assignment was at Whiteman Air Force Base for four years, and as it turns out, I have two children who are attending college here in Missouri. So it's always nice to come back to Missouri. It's a beautiful time of year.

Not surprisingly, the major federal customer in this case is, of course, Whiteman Air Force base, and they're a customer on the MPS system, the old MoPub system, and they're a large power customer. And along with Mr. Conrad, we are sponsoring the testimony of Mr. Maurice Brubaker. Mr. Brubaker's cost of service study shows that the LPS class in the MPS service area is overpaying by 8.56 percent according to Exhibit A that you

have before you. And, of course, Aquila's testimony indicates that they are overpaying as well.

Now, as previously discussed, Mr. Brubaker is using the average and excess methodology with three non-coincident peaks, not coincident peaks, but non-coincident peaks, which as Mr. Conrad stated, that clearly indicates it's not what's called a peak responsibility method because it's using again non-coincident peaks.

I think as you go through the testimony and look at the evidence, that you'll find that one of the key if not the key issue in this case is what's the appropriate method for allocating production or generation and transmission costs. The method that Mr. Brubaker is proposing is a recognized mainstream method that appropriately balances the interests of all customer classes. On the other hand, it's our position, the FEA position, that the Staff method is stale and it's not a mainstream method, and we do not recommend that you use it in this case.

I just have one final comment on the matter that Mr. Swearengen raised on the issue of the scope of this case. I find, as Mr. Swearengen indicated, at page 7 of the Judge's order in this case dated August 23rd, 2005, very cogently and accurately sets out the purpose of this

case. And I would quote some different language from that than Mr. Swearengen quoted.

The Judge stated, its purpose -- and when he says its, he's referring to this case, EO-2002-348. He stated, its purpose is a comprehensive examination of the costs involved in serving Aquila's various electric service customer classes and identifying any adjustment necessary to match costs with revenues and eliminate any subsidies. The centerpiece of this effort is the class cost of service study in which the company's historical billing data and operating costs are mathematically analyzed.

It's hard for me to understand why there would be any question about the purpose of this case, given that language in the Judge's order. And Commissioners, that concludes my comments. Thank you.

JUDGE THOMPSON: Any questions for Major Paulson?

CHAIRMAN DAVIS: Major Paulson?

MR. PAULSON: Yes, sir.

CHAIRMAN DAVIS: Are you aware that there have been, I guess, some efforts to close some military bases around the country?

MR. PAULSON: Yes, Commissioner. If I discuss that, and I don't -- I don't mean this

facetiously, but if I would discuss that matter, sir, I probably wouldn't be here tomorrow morning. We're not permitted to discuss.

CHAIRMAN DAVIS: All right. Well, can I ask -- I'm going to ask this one question, and if you can't answer it, then that's perfectly acceptable.

MR. PAULSON: Yes, sir.

CHAIRMAN DAVIS: Are electric rates a consideration?

MR. PAULSON: Yes, sir. And I can answer that question. Electric -- electric costs, the cost that the military pays for electricity is paid out of operation and maintenance funds, funds for the operation and maintenance of the military, and they're termed a must-pay bill. In other words, what that meanS is that you've got a set amount of dollars for operation and maintenance in the military, and utility costs have to be paid ahead of other costs.

And so to the extent that -- let me put it this way. To the extent that we are paying lower rates because those rates are fair and reasonable -- and I want to stress that our policy is to pay fair and reasonable rates, but to the extent that our rates go down and because it's fair and reasonable to do so, that frees up money for other military operation and maintenance uses.

Of course, the other aspect is that we intervene in these cases and present our position because we're -- we have an obligation to be good stewards of the taxpayers' dollars. So does that answer your question, sir?

CHAIRMAN DAVIS: Yes, sir. Thank you.

MR. PAULSON: Thank you.

JUDGE THOMPSON: Other questions? Major Paulson, I think there's -- I'm sorry.

COMMISSIONER GAW: Major, name one military base that was closed in this last round of closing because of electricity prices for me.

MR. PAULSON: Sir, I can't do that.

COMMISSIONER GAW: Why is that? Are you telling me because you don't know of any or because you're not allowed to discuss it?

MR. PAULSON: First of all, if I knew, I don't think I would be allowed to mention it, but they look at a number of different costs, not just electric costs.

COMMISSIONER GAW: Could I assume, then, that the rates in St. Louis must be more expensive than the rates at Whiteman since we lost several jobs in the St. Louis area?

MR. PAULSON: Commissioner, I have no idea.

COMMISSIONER GAW: How big of a factor is

it, Major?

MR. PAULSON: I don't know that either, Commissioner. Again --

COMMISSIONER GAW: Maybe your witness will. I'll ask them. Thank you.

MR. PAULSON: Well, I don't think the witness will, Commissioner. And, again, I think that there's a, I think, a procedure to answer questions like that, but respectfully, sir, I don't believe it's this rate case. There are -- there's the Brack Commission and people that deal with the Brack issues.

COMMISSIONER GAW: Is your -- is your client utilizing an argument that a military base might be closed because of electric rates in this matter?

MR. PAULSON: No, sir, not at all. No. As I thought that I had indicated, we -- our policy is to pay fair and reasonable rates because that means they'll be assuming the rates go down. They could go up, but if they go down, that frees up other operational maintenance expenses, and also to be a good steward of the taxpayers' dollars. That's our goal in these cases.

COMMISSIONER GAW: That's all I have. Thank you.

MR. PAULSON: Yes, sir.

CHAIRMAN DAVIS: Major, I've got one more

question. Would you be willing to follow up and provide us with some specific rate information from the states that have not -- from bases of comparable size to say Whiteman that are located in states that have not restructured, what specific electric rates they are paying versus the rates that are being paid by Whiteman? Do you think you could provide that information?

MR. PAULSON: I will see what I can do, Judge. You want -- you want to know the electric rates paid by comparable bases to Whiteman?

CHAIRMAN DAVIS: Right. But I would like them from states that have not restructured. Of course, I guess you could get them from restructured states, too, but I don't think that would be a very -- probably wouldn't be as meaningful a number, but --

MR. PAULSON: I will see what I can do, Commissioner. I do not anticipate -- I think this may take some time, sir.

CHAIRMAN DAVIS: We're patient, Major. Thank you.

MR. PAULSON: Thank you, sir.

JUDGE THOMPSON: Thank you, Major.

Jackson County?

(No response.)

JUDGE THOMPSON: Kellene, let the record

reflect that Jackson County has been called and not appeared, and the same with AARP and Calpine.

City of Kansas City?

MR. COMLEY: May it please the Commission? I'm Mark Comley. I represent the City of Kansas City in this matter, and the reason I'm appearing before you today is to thank you very much for allowing the City of Kansas City to participate in this case.

We have -- as the City has done in several cases involving the utility companies that serve the City and its industry, the City decided to be a very close observer to the proceedings, and that is primarily what it has done. You will notice that the City has not taken any position on the issues, did not file a Prehearing Brief.

At the same time, I want to tell the Commission, we do understand the serious question that's in front of you, the balance of interest that you have to review to make sure that residential subscribers are treated fairly at the same time rates are set for industry in Kansas City and elsewhere that would provide for robust growth.

So with that, we have no witness to sponsor. I do have -- I have no cross-examination for any witness, and intend to utilize what the Judge has allowed us to do, and that would be excuse myself from the

hearing. Thank you.

JUDGE THOMPSON: Any questions for Mr. Comley?

CHAIRMAN DAVIS: You're not going to be -- you don't plan to take any positions in respect to -- with regard to any of the issues in this case or the other case; is that correct?

MR. COMLEY: Well, in the rate case we have reviewed the energy efficiency and low income weatherization issues and we're still watching those very cautiously. But in this case, no, we'll be taking no official position on any of the issues.

CHAIRMAN DAVIS: Okay. So in the other case, you're only taking positions on -- was it energy efficiency and what was the other issue?

MR. COMLEY: Low income weatherization. Missouri Department of Natural Resources and the City seem to share that issue. The Kansas City administration is the one that handles the bulk of that program in the Platte, Jackson and Clay County areas.

CHAIRMAN DAVIS: So if there were issues in the other case that were going to settle besides weatherization and low income, you're not going to object to that, correct?

MR. COMLEY: Probably not, but I'd sure

like to take a look at them before they settle. But probably not.

CHAIRMAN DAVIS: That settlement wouldn't have anything to do with whether or not you get your low income or weatherization, correct?

MR. COMLEY: I would presume so.

CHAIRMAN DAVIS: Thank you, Mr. Comley.

JUDGE THOMPSON: City of St. Joseph?

MR. STEINMEIER: Your Honor, the City of St. Joseph would waive an opening statement and say ditto to Mr. Comley.

JUDGE THOMPSON: Thank you, Mr. Steinmeier. Staff?

MR. WILLIAMS: May it please the Commission? My name is Nathan Williams, and I'm representing the Staff here today.

This case was based on information from the calendar year 2002 updated through September 30th for costs and revenue information. Load research data was captured during the pendency of this case and developed for purposes of doing class cost of service studies.

In addition to the time required in order to acquire the load research data, there were other events that occurred, such as the intervening rate case regarding Aquila, as well as other matters that kept numerous

parties busy, such as Kansas City Power & Light Company's experimental regulatory plan. Those are, I think, the main drivers behind the length of time that this case has taken to go forward.

The Staff's recommendation to the Commission to only decide the allocation issues which are the big issues in this case, which is how to allocate generation and transmission costs, is because when the Staff performed its class cost of service study in the rate case, it came up with results that were significantly different than the results that came out for purposes of this case. That's the sole basis for the Staff's recommendation with regard to what the Commission should do in this case.

Now, in this case the parties did agree to the cost to be used, the revenues, and the load research data. So what you really have in front of you are differences of viewpoint as to what methods should be used, in particular the methods to be used for allocating generation and transmission costs.

The Staff's approach is to use capacity utilization and match the costs that a utility incurs to provide that generation and transmission with the demands that customers put on that for -- put on that system for electricity usage hour by hour. The other parties use

some type of methodology that looks at a particular short period of time where there's a peak and maybe multiple peaks, but they all use some kind of a peak responsibility method.

The other thing I want to point out is that the purpose of this case is to look at how shifts should be done in terms of customer responsibility for the revenues that Aquila receives. A lot of the -- a lot of other factors come into play in designing rates besides just the cost of service. For example, if the Commission's wanting to encourage electricity usage by commercial customers, it may want to design rates that encourage that, but that would be for a different reason than because of class cost of service.

I think that will conclude my remarks at this time.

JUDGE THOMPSON: Thank you, Mr. Williams. Any questions from the Bench for Mr. Williams?

CHAIRMAN DAVIS: Mr. Williams, a while back Staff provided me with some information with regard to the high, low and average residential electric rates per kilowatt hour in the U.S. Census regions, and actually gave me a ranking of the states with low rates and high rates. They did that for both residential as well as industrial users.

Do you think Staff could replicate that information and bring it up to date for both residential, commercial and industrial users? I think Mr. Wood prepared the slides for me.

MR. WILLIAMS: I can inquire. I don't know offhand. I would think so.

CHAIRMAN DAVIS: Do you think you can inquire and replicate that?

MR. WILLIAMS: I can certainly ask Mr. Wood.

CHAIRMAN DAVIS: And then also, Mr. Wood also prepared for me a chart on I believe it was the state's demand growth in terms of kilowatt hours and broke it down by residential, industrial and commercial again. Do you think you could replicate that graph for us as well? And certainly if you could include Aquila-specific information, that would be most helpful.

MR. WILLIAMS: I'll see what I can do.

JUDGE THOMPSON: Thank you.

MR. WILLIAMS: So we'll have three additional exhibits?

CHAIRMAN DAVIS: Three or four.

JUDGE THOMPSON: Thank you, Mr. Williams. Mr. Mills?

COMMISSIONER GAW: I have a question, too.

JUDGE THOMPSON: Commissioner Gaw?

COMMISSIONER GAW: Mr. Williams, is Staff taking the position that its study or its testimony here reflects a true cost of service, or is it a recommendation that includes other factors in regard to its conclusions?

MR. WILLIAMS: Staff's recommendation in this case is based on cost of service. I mean, we did a class cost of service study.

COMMISSIONER GAW: Okay. And then I heard you, I thought, suggest to me that the Commission is not necessarily bound rigidly to the findings of a cost of service model or models, that it can do other things from the standpoint of how it allocates rates among the different categories of ratepayers.

MR. WILLIAMS: Certainly.

COMMISSIONER GAW: And what's the basis for that? What's the legal basis for that?

MR. WILLIAMS: Whenever the Commission establishes rates, it looks at all relevant factors, and those factors include more than just the class cost of service.

COMMISSIONER GAW: So the suggestions that we have to be -- we are required to be at true cost of service, whatever that may be in whatever model may be selected, that's the only way the Commission can examine

how to allocate rates? The Staff's position is not correct that the Commission has more flexibility than that?

MR. WILLIAMS: Certainly. And additionally class cost of service studies are not mathematically exact. I mean, the math that's used in them is, but the result is not necessarily -- is not a precise result. It gives you an indication.

COMMISSIONER GAW: Okay. All right. I'll leave it at that. Thank you.

JUDGE THOMPSON: Other questions from the Bench of Mr. Williams?

CHAIRMAN DAVIS: Mr. Williams, what are some of those factors that you think can be considered?

MR. WILLIAMS: Well, certainly the Commission could determine that it wants to set lower customer charges for residential to make it perhaps easier for low income people to pay their electric bills. There are just a myriad of factors.

CHAIRMAN DAVIS: So any cogent reason that we come up with?

MR. WILLIAMS: As long as it's supported by facts, yes.

CHAIRMAN DAVIS: As long as there's competent and substantial evidence to support?

MR. WILLIAMS: Yes, and those would be things you'd be doing in a rate case.

CHAIRMAN DAVIS: All right. Thank you, Mr. Williams.

COMMISSIONER GAW: May I follow up just real quick?

JUDGE THOMPSON: You may.

COMMISSIONER GAW: Mr. Williams, would it be -- is it Staff's belief that it's appropriate to -- or not inappropriate, let me phrase it that way, for the Commission to build in conservation as a factor in determining how rates are allocated or how they're dealt with?

MR. WILLIAMS: The Staff believes the cost of service should be a major guideline, but it's not the only factor that should be considered in developing rates. And conservation could be certainly an impact. I think it is.

COMMISSIONER GAW: All right. That's all I have. But I would like to go back to DNR to ask them a question in a moment, whenever it's appropriate.

JUDGE THOMPSON: Thank you, Mr. Williams.

MR. WILLIAMS: Thank you.

JUDGE THOMPSON: Ms. Woods, I believe there is a question of you from the Commissioner.

COMMISSIONER GAW: Yes, ma'am. Earlier I thought I heard you say that the Department of Natural Resources is taking no position in this case; is that correct?

MS. WOODS: That's correct.

COMMISSIONER GAW: Does the Department believe that it is at least allowable for this Commission to examine rates that encourage conservation in how it allocates rates among different parties and within -- and as far as the rates are concerned for parties themselves or for categories of parties?

MS. WOODS: I must confess that's not something I'd looked at. I guess we'd looked at it more in terms of the rate case rather than the rate design.

COMMISSIONER GAW: It just strikes me that if it is an appropriate factor for the Commission to examine, that the Department might have some interest in promoting some rate structures that encourage conservation. I'm curious as to why the Department isn't taking a position on it if that's the case.

MS. WOODS: It's simply because that's not something that we had considered in this particular case. It's something that we'll take a look at, though, for the next rate design case certainly.

COMMISSIONER GAW: We don't get these very

often. It appears that we haven't had one for quite some time. But the Department is not taking a position in regard to setting rates that encourage conservation in this case; is that correct?

MS. WOODS: That's correct.

COMMISSIONER GAW: All right. That's all I wanted.

MS. WOODS: Thank you.

CHAIRMAN DAVIS: Judge, can I ask a couple follow-up questions?

JUDGE THOMPSON: You may.

CHAIRMAN DAVIS: Ma'am, to the best of your knowledge, the Department of Natural Resources has never taken a position in a class cost of service or rate design area; is that correct?

MS. WOODS: To the best of my knowledge, it never has, although I must say that the Department of Natural Resources has been somewhat inconsistent about how often it does get involved in these rate proceedings or the proceedings in front of the Commission, simply because of staffing.

CHAIRMAN DAVIS: Thank you.

MS. WOODS: Thank you.

JUDGE THOMPSON: Other questions, Commissioner Gaw?

COMMISSIONER GAW: Are you saying that you know that the Department has not taken positions, or you just don't know?

MS. WOODS: In the time that I've represented the Department, they have never taken a position, and that's been for approximately -- well, the Division of Energy. And that's for approximately the last ten years, I believe.

COMMISSIONER GAW: How many class cost of service studies have you known about or been involved in at all?

MS. WOODS: This would be the only one.

COMMISSIONER GAW: Yes, that's what I thought. Thank you very much.

JUDGE THOMPSON: Thank you, Ms. Woods. Mr. Mills?

MR. MILLS: Good morning. May it please the Commission? My name is Lewis Mills. I represent the Office of the Public Counsel and the public.

You know, most people call this case a rate design case. I've been calling it that for years. I even call it that. The thing is, it's not really about rate design at all. Yeah, Aquila has proposed to redesign some rates, but no other party agrees with Aquila's proposals and Aquila has done precious little to try to justify

those rate design changes. And you'll notice even this morning there's been very little discussion about rate design changes in the parties' opening statements.

What this case is really about is inter-class revenue shifts. All the parties in this case have done intricate exercises called class cost of service studies to try and demonstrate how each class is responsible for a proportion of Aquila's overall system cost.

The most important thing to keep in mind about these studies is they are totally artificial. System designers don't say, okay, we need to build a power plant, let's do one that will go 42.8 percent to large power, 12.2 to residential, et cetera. Linemen don't talk about each class responsibility for the transmission lines they're installing.

The system is built to serve all customers, and then only later economists and engineers come back and try to deconstruct it to try to figure out how the various classes are using it. By definition this is just an approximation. And having done that, they then try to approximate the cost responsibility that flows from the usage.

None of the witnesses in this case will tell you that any of this is exact science, but what they

will tell you is that you should change rates on the basis of those studies. You've seen from the Exhibit 25, filed this morning, the summary of the parties' positions on rate shifts.

There are millions and millions of dollars at stake based on these studies. And these cases -- I mean these studies, it's not like you're talking about audited numbers in a rate case. You're talking about approximations based on approximations based on methods to try to guess at how classes are using the system.

So what is Public Counsel proposing? Recognizing the necessarily imprecise nature of cost studies, we're proposing that you determine which study you find the most reasonable, or which ad hoc combination of elements you find most reasonable, and you use that as a guide to make some incremental rate shifts. Of course, how far you decide to go will depend on how reliable you find the cost studies. Plus it should also depend -- and I urge you to be sure it does depend -- on the overall rate increase you award in the rate case, ER-2005-0436.

In considering how to determine revenue shifts that may be made in that case, the Commission should move classes no more than halfway to the revenue neutral shifts indicated by Public Counsel's cost of service studies in this case. And even this move should

be limited by the amount of any rate increase granted in Case No. ER-2005-0436 so that no customer class should receive a net decrease as the combined result of the revenue neutral shift from this case and the share of the total revenue increase that is applied to that class.

So by all of this, I don't mean that the Commission should ignore all the work that has been done in this case. Rather, I simply urge the Commission to bear in mind the inherent inaccuracies of the process and not to look at cost studies and the resulting recommendations as precise and exact determinations of cost responsibility.

And finally, any decision to move rates closer to what the Commission determines is class cost responsibility for system cost is a policy. It's not a legal requirement.

The Commission can consider class responsibility. It can consider rate impacts. It can consider the reliability and the precision of the studies. It can consider rate stability. It can consider price signals. It can consider conservation. All of these things are relevant considerations. Cost of service studies are simply one.

That concludes my opening statements.

JUDGE THOMPSON: Any questions for

Mr. Mills?

MR. MILLS: Thank you.

JUDGE THOMPSON: Thank you, Mr. Mills.

Ms. Reporter, are you at the point where you need a break?

THE REPORTER: I'm fine.

JUDGE THOMPSON: You're fine. Okay.

Well, in that case, we'll go ahead and take the first witness, who I believe is J. Matt Tracy.

MR. SWEARENGEN: That's correct. Call Mr. Tracy.

(Witness sworn.)

JUDGE THOMPSON: Please state your name for the reporter.

THE WITNESS: My name is J. Matt Tracy. J, an initial. It's M-a-t-t, T-r-a-c-y.

JUDGE THOMPSON: Thank you, Mr. Tracy. Take your seat, please. You may inquire.

MR. SWEARENGEN: Thank you, your Honor. I understand we're waiving the --

JUDGE THOMPSON: We are waiving the tedious foundation questions.

MR. SWEARENGEN: -- customary --

J. MATT TRACY testified as follows:

DIRECT EXAMINATION BY MR. SWEARENGEN:

Q. Mr. Tracy, you have filed three pieces of testimony in this case; is that correct?

A. That is correct. I believe one of them actually ended up having a correction filed because some of the pages didn't get included in the initial electronic filing. Nothing was changed. Just some pages didn't make it in the first filing. But, yeah, it's all in there.

Q. Do you have copies of that testimony with you this morning?

A. Yes, I do.

Q. And you understand your direct has been marked as Exhibit 1, your rebuttal Exhibit 2, and your surrebuttal Exhibit 3?

A. Yes, I do.

Q. And those answers, if I asked you the questions that are in those testimonies, would your answers be substantially the same this morning?

A. Yes, they would.

Q. Are they true and correct to the best of your knowledge, information and belief?

A. Yes, they are.

MR. SWEARENGEN: I would tender the witness and offer into evidence Exhibits 1, 2 and 3.

JUDGE THOMPSON: Thank you, Mr. Swearengen. Do I hear any objection to the receipt of Exhibits 1, 2 or

3?

MR. WILLIAMS: Staff has no objection.

JUDGE THOMPSON: Hearing no objections, the same are received and made a part of this proceeding.

(EXHIBIT NOS. 1, 2 AND 3 WERE RECEIVED INTO EVIDENCE.)

JUDGE THOMPSON: Cross-examination, Federal Executive Agencies?

MR. PAULSON: None, your Honor.

JUDGE THOMPSON: Thank you. AG Processing?

MR. CONRAD: We have no questions, your Honor.

JUDGE THOMPSON: Empire?

MR. KEEVIL: No questions.

JUDGE THOMPSON: Kansas City? Kansas City is gone. St. Joseph?

MR. STEINMEIER: No questions, your Honor.

JUDGE THOMPSON: Jackson County, not here. DNR?

MS. WOODS: No questions, your Honor.

JUDGE THOMPSON: And AARP, also not here. Very well. Questions from the Bench? Or excuse me.

Staff, how could I miss you? There was a page break there, confused me.

Mr. Williams, you may inquire.

CROSS-EXAMINATION BY MR. WILLIAMS:

Q. Mr. Tracy, good morning. My name is Nathan Williams.

A. Good morning, Mr. Williams.

Q. On page 6 of your testimony, your direct --

A. Direct.

Q. -- at line 5, you have a statement the COS is a guide in setting revenue requirements and designing rates. It is not a ruler. Do you still agree with that statement?

A. I do.

Q. And then the next sentence you say, COS follows a maximum amount being measured with a micrometer, marked with a piece of chalk and cut with an axe. Can you explain what you mean by that?

A. Well, that's an old saw I heard -- well, I remember who it was and you don't care, but anyway, an old marketing guy talked about that. The basic premise is, at the end of the day you have this cost of service study and it's got these dollar figures in it and it comes down to the final dollar. And we're estimating millions of dollars and yet our study shows, yeah, it gives the impression that you know this down to the dollar.

Think of it like lawn darts. Okay. If you're out in your backyard and you've got a target over

there -- I know you're not allowed to have lawn darts anymore, because they're dangerous. You toss the lawn dart and it would hit a spot, and there was a spot and you could mark where that was.

Well, what we're dealing with here is that it seems like that's what we have, but what we're really doing is we're throwing bean bag chairs and you give it a chuck and, yeah, there's a number and you say, this is the center of the bean bag chair, but you're not really sure. You know, it's here in this area here someplace. And so that's what I'm saying when I say you measure it with a micrometer, you've got this thing figured out here to the dollar, but really it's an area.

Now, the other piece about this is, when you have this bean bag chair lying over it, you may say, okay, that makes it not very specific, not very accurate. But the problem is, whereas your number is in the center of that bean bag chair, what is true, what you're trying to estimate could easily be beyond where your estimate is, where your single dollar value is, as it is short of that value.

And so that value that you put out there is ultimately the best estimate you've got. You don't know if it's beyond, you don't know if it's on your side, but that's why you use that number. That's why it's kind

of -- yeah, I've used this in Colorado. I use the term it's kind of squishy. And I think people eventually got comfortable with that term. It's not as precise as the dollar value you see at the bottom of the page.

Q. Did you do any sensitivity studies to determine how squishy it is?

A. Well, the basic premise in my view of what creates --

Q. I think that calls for a yes or no response, please.

A. Well, yes.

Q. And what type of sensitivity studies did you do for your cost of service?

A. Okay. Sensitivity relates largely to the load research upon which it is premised, and so in the normal, you know, the Public Utilities Regulatory Policy Act, PURPA of 1978, as I recall, that's where the initial recommendations for load research accuracy, which is 90 percent relative accuracy plus or minus 10 percent -- no -- 90 percent confidence plus or minus 10 percent relative accuracy. If you-all like statistics, I can really go into this. Most people don't. James is smiling. He likes them.

What it means is at the time of the system peak, you want the number that you're estimating from the

load research, the load shape, the stuff in my -- I believe it was rebuttal Schedule JMT-2, those load shapes, you want them at the time of the system peak to be within plus or minus 10 percent of the true value 90 percent of the time. And so that's -- that's the sensitivity analysis.

MR. WILLIAMS: Thank you. No further questions.

JUDGE THOMPSON: Mr. Mills?

MR. MILLS: Thank you. I have no questions for this witness.

JUDGE THOMPSON: Questions from the Bench, Chairman Davis?

QUESTIONS BY CHAIRMAN DAVIS:

Q. So within 10 percent 90 percent of the time; is that correct?

A. That's correct.

Q. And is that 10 percent either way up or down or is it 5 percent on each side?

A. It's 10 percent either way. It's a pretty big band.

Q. So you've got a range of 20 percent and a 90 percent confidence level in that change?

A. Yes, sir.

Q. Okay. Thank you.

A. You're welcome.

JUDGE THOMPSON: Commissioner Murray?

QUESTIONS BY COMMISSIONER MURRAY:

Q. Just one or two questions. Good morning.

A. Good morning.

Q. You indicated in your testimony that lowering the bills of low-use customers -- to lower the bills of low-use customers, the bills of high-use customers are raised, and that sometimes that results in increasing the cost to those in need of assistance --

A. Yes.

Q. -- is that correct?

Would you expand on that just a little bit?

A. Yes. The study I looked at most closely was, as I said, last year we were doing this same process in Colorado. We found similar results, but I haven't looked at it as closely for Missouri.

But what we found is that your lowest income customers are not typically your lowest use customers. The issue being your lowest income customers typically can't afford the more efficient appliances, cannot afford the better insulated home, cannot afford the high efficiency E-glass windows and all of that stuff that we put in our homes. I'm sorry. That I put in my home. I don't know if you put them in your home. You know, I'm

an efficiency kind of guy. I drove an electric car for five years, that sort of thing. I'm one of those.

But that's the issue is that ultimately, by artificially reducing the energy rate, well, the -- sorry -- the customer charge for residential customers and raising the energy charge for the poor -- well, the study we looked at was for LIHEAP customers, L-I-H-E-A-P, which I believe is Low Income Heating Energy Assistance Program. I call them LIHEAP. I haven't actually read the acronym in years, what it means.

Looking at those customers, the issue is they tend to use more than the average residential customer, and so by increasing the energy rate in order to pick up additional fixed costs that you didn't pick up in the customer charge, they are actually paying more than they would have paid if it followed more closely to -- well, and I'll say our cost of service, as opposed to some of the other parties' cost of service.

Q. So in that situation, if residential customers were being subsidized, it's really the higher income residential customers that are being subsidized more than the very low income residential customers. Would you agree with that?

A. Well, you've got two subsidies, and I need you to help me understand which one you're talking about.

There's a subsidy between classes which typically, at least in our study, we found that the industrials are subsidizing the residential.

Q. And that's the subsidy I'm speaking about.

A. Okay. As opposed to intra-class between residential customers. Yeah.

Yeah, ultimately then the industrials would be helping pay the bill of the highest usage customers to a greater extent than to the lower usage customers.

COMMISSIONER MURRAY: Thank you.

JUDGE THOMPSON: Commissioner Gaw?

QUESTIONS BY COMMISSIONER GAW:

Q. I didn't have any questions, but I guess I have a couple now, because I'm not sure I followed that.

A. Okay.

Q. You aren't saying that shifting costs from the industrials to the residential customers somehow helps low income residential customers, are you?

A. No, sir.

Q. I didn't think you were saying that.

A. And I didn't.

Q. I just wanted to make sure, because it was unclear from the question and answer to me.

A. Yeah. That goes to the two different subsidies going on, inter-class versus intra-class.

Q. And in fact, shifting the burden from the industrials to the residential is going to place more of a burden on all of the residential consumers?

A. Well, I actually made the argument, and I forget which batch it's in, that ultimately the residential customers -- and then this goes for taxes or whatever it is -- ends up paying all of the bills, ultimately through the purchases they make at Wal-Mart, through the cars they buy, they end up paying it all.

Now, it doesn't make sense for them to charge nothing to the industrials and make the residential just pay everything, but it does make sense to charge everybody their economically efficient rate so that everybody uses the power most efficiently.

By that happening, ultimately, I mean -- and it is a long-term process. Ultimately that does reduce the cost to society. And like I say, my argument is the residential customers end up paying it all anyway, so it makes sense to make it allocated as fairly as possible so that the ultimate cost is as low as possible.

So I would argue that, yes, in the long term balancing rates appropriately -- and I would argue that's what our cost of service case shows -- ultimately reduces everybody's rates over what they would be if you

balanced them more heavily towards -- which way am I going here -- towards residential and raising industrial. If you overbalance it that way, if you get it out of balance, it ends up costing everybody more.

I don't think you're buying it, but that's what I'm selling, sir.

Q. My question, I think, was whether or not there was a -- if you moved the costs from -- some portion of the cost from the industrial class to the residential class, would that not on an immediate level then, let me say, result in the rest -- in all the residential customers paying more than they have before?

A. In very short term on an immediate level, yes, sir, it would.

Q. All right. Your other argument has to do with a theory based upon assumption that the residential consumers ultimately bear all the costs for everything that is produced?

A. Correct, sir.

Q. Because they will consume it at some point?

A. Correct.

Q. You would also under that theory argue that it's important for the -- it would be helpful for the consumer then to have the lowest cost available on the things that they consume in order to most benefit them?

A. I believe so. I think I followed that, yes.

Q. So would that also argue in favor of moving all of these industrial jobs over to a cheaper place, perhaps like China?

A. China's a nice place. I've never been there.

Q. Yes.

A. I think they -- that goes into world trade economics, and whether you have a view that Chinese people deserve jobs or not or --

Q. I'd like for all of us to have great jobs.

A. I've got one.

Q. But I'm just trying to understand, when you start saying residential consumers ultimately pay for everything anyway, you jump into a whole different mode of economics, including world trade and other things, I would assume. I didn't know that we were doing that analysis in this case.

A. I believe we are. I think it's something that you should consider. When we listed all the factors that you should consider, I think certainly that's one of them is that ultimately -- I'm a customer as well. I'm an employee. I'm a customer.

Q. But as far as just looking at this from the

standpoint of costs shifting from industrials to residential, low income consumers, residential consumers of electricity would pay more in the short run?

A. Yes, sir, they would.

Q. And is that LIHEAP -- is that -- would that be Low Income Home Energy Assistance Program? Don't remember.

A. I don't remember, sir. I just call it LIHEAP.

Q. Okay. Did you work on any conservation incentives in any of these rates structures? Since you had an electric car, I thought maybe you might have an interest.

A. I sold my electric car, sir.

Q. Don't even have a hybrid now?

A. No. Can't afford them. I have a 16-year-old. Today's my son's birthday. Happy birthday, Alex. He's not watching.

Q. Could be, though.

A. Could be.

Q. It's technologically feasible.

A. It's theoretically possible and, frankly, the boy could be watching. He's that way.

But no, sir, I did not look at any conservation issues in dealing with that, other than we do

have our thermal energy storage rate available. I believe -- it always gives me a kick to say it's frozen. Thermal energy storage is freezing ice at night and then using that for coolant during the day. That rate's frozen. I love that. Anyway, I get my humor where I can, sir.

Q. Yes. I understand. In this place it's sometimes difficult.

A. So yeah, we do have that rate. We have some time of use rates that have addressed that. We are actually moving to remove all of those because we haven't had any customers.

Q. The rate structures that are proposed by Aquila in this case, did they -- did they present any conservation incentives to us as a part of the proposal?

A. Conservation in the extent --

Q. Or efficiency incentives?

A. Efficiency, yes. I mean, the premise -- and again, this goes to my argument as an economist is that, if I send you a price signal that says, this is what it actually costs to provide this, that that's the efficient signal to send you. If you just want people to conserve, then ultimately what you need to do is just apply a tax and just raise the rate to everybody.

Q. Are there any rates that stair step up here

with increasing usage or --

A. Yes, sir, we do.

Q. Okay.

A. Our residential rate in the summer, as I recall, has a very slight upward stair step.

Q. Okay. Now, is that to encourage conservation and efficiency, or is that as a result of examining the fact that in the summer you may have to burn more gas generation, have more peaking units running?

A. I mean, that's going to apply to both of those issues. The other piece is that residential customers don't have a demand charge, and so you can't really capture that aspect. So by having the inclining block -- am I saying that right -- increasing block, it stair steps up. As I say, it's frankly fairly flat, but it does -- the numbers do, in fact, increase.

That does encourage customers to try to moderate their usage, or at least that's the intent, as opposed to what would be a more typical declining block structure where you're actually encouraging them to use more.

Q. Right.

A. Residential customers are the driving force in our summer peak. Again, if you would look at my surrebuttal -- my rebuttal Schedule JMT-2, it's all the

load shapes. I really love those graphs. If you want to talk about those, I'd be glad to because I'm just that kind of guy.

But if you look at those you'll see that the residential customers are the ones who have this really massive peak compared to their base load in the summer, and that's what drives the cost of both St. Joe and the Missouri Public Service systems. Let me see if I can find those schedules if you want. Sorry.

Q. Sure.

A. Yes, sir. That's my rebuttal Schedule JMT-2. And I have to take off my glasses to see them up close. Put my glasses on to see you and take my glasses off to see this.

The first graph, page 1 of 7, and I only did the Missouri Public Service system, and in fact, I consolidated the classes very much like all the parties did. I, in fact, provided 25 load shapes in total to the parties, and the system load shape is, in fact, a 26th load shape. So we've got data all over the place.

If you look at that first graph, I describe in my testimony how you view that. This is a three-dimensional graph. Basically, the way I look at it, pretend like you've got a rectangular aquarium. You've got width, depth and height, and so the load shape, the

height of the load shape is the demand in megawatts. Then you have the year along the forward of the long axis, the front of the aquarium.

And then going back into the aquarium are the hours, from the first hour through the 24th hour. In the electric industry, we tend to -- the hour ending at 1:00, hour ending at 2:00, so that's that load shape.

COMMISSIONER CLAYTON: Judge, can I get clarification on what exhibit we're talking about?

JUDGE THOMPSON: Mr. Tracy?

THE WITNESS: That would be your exhibit we numbered it No. 2, JMT-2.

JUDGE THOMPSON: So your rebuttal testimony?

THE WITNESS: My rebuttal testimony.

CHAIRMAN DAVIS: So this is the one that looks more like the mountains or rolling hills? Is that it (indicating)?

THE WITNESS: That's it. Mr. Williams is showing it. It's attached to my rebuttal.

JUDGE THOMPSON: So are we looking at page 1 of 7, rebuttal Schedule JMT-2?

THE WITNESS: Yes, we are.

JUDGE THOMPSON: Please proceed.

THE WITNESS: This is the system load for

Missouri Public Service. This is what the whole -- all this, this is what the power for the whole system is. And if you look at that, you can see the summer season is that big peak. That's what it is we have to meet.

When we talk about generation, we buy, you know, whatever we have to buy on the market, plus we have our own generation. I think that's just under 1,400 megawatts. You've got to have that much capacity, plus spinning reserves and all the other stuff you've got to have to meet that peak. That's the peak we're talking about.

Now, if we look at the next page, page 2 of 7, that's the residential load shape. All right. Now, this one is you'll note a bit spikier than the one before, just as far as it goes up and down a little faster from time to time. Part of that is because of residential customers just do that. Part of it also, the last shape was actually measured at the generating station at the ties. This one is an estimate. Okay. When we talk about that plus or minus 10 percent at 90 percent confidence, that's what this is designed to do.

So here you can look at this and look at the baseline level of usage. You know, where does this -- you know, the bottom of the graph here, and that's the base load for this class. But look how high it goes up

during the summer. That's the issue for residential customers, particularly in Missouri. That's air conditioning load. That's what you're looking at. It typically peaks around 5:00 or 6:00 in the evening. The sun's been shining all day. People come home from work, turn on all their stuff. That's when our system peaks. That's when the residential class peaks.

If you turn over -- and notice here, I didn't point it out at the top on the first graph, our system load factor for Missouri Public Service is 47 percent. That's a measure of the efficiency of the system, how evenly are we using the system. For residential general use, there on page 2 of 7, the load factor drops to 3 percent. Now, I say that, and I want you to understand, that's bad. That's not a good load factor. That's a bad thing. The 47 percent is not a good thing.

Missouri Public Service has a fairly poor load factor. We serve a lot of bedroom communities. We don't serve the City of Kansas City. We serve the suburban area around it.

The next graph shows residential space heating customers. And we're passing more graphs around because graphs are fun. Now, if you took away the winter period, you'd still see that same summer load shape

because they use air conditioning as well. But what you see is that with the space heating customers, is they use a lot of energy in the winter, and we're encouraging that because frankly, that helps us use our system more efficiently.

So that's what's going on there. Notice the load factor. The load factor is based on the ratio of the average usage to the peak usage, and so based on their peak, that's a 32 percent load factor, and we're saying that's not very good.

But if you base the peak on their summer demands, which is when our system cares most about what's going on, their load factor jumps up to 52 percent, which is above our system average, and there we go. We've got copies. All right. Can I go on to page 4?

CHAIRMAN DAVIS: May I ask him one quick question?

COMMISSIONER GAW: Sure.

FURTHER QUESTIONS BY CHAIRMAN DAVIS:

Q. Mr. Tracy, you just kind of lost me there. So what was the whole point there after you finished?

A. On the load factor?

Q. Well, yes, on the load factor on page 3. I sort of was missing -- what's -- what am I supposed to learn from this?

A. Okay. What you learn from this, a load factor is mathematically just the average usage divided by the maximum usage, and so if we're back to this aquarium, if this is frozen water in this shape, then you take the highest spot, that's the maximum. Well, if you follow the water out, the water will then come to a new level and that will be the average, and you measure that spot. So that's load factor.

So what's the average over the maximum? Well, for space heating customers, their maximum occurs in the winter, and so based on that, they actually don't have a very good load factor. But if you consider that Missouri Public Service and for St. Joe as well, the summer is the critical period for us.

That's -- if we go back to the system peak, the summer is when we're peaking. So if you just consider the summer period and their maximum demand during that period and not also the winter session, then their load factor is 52 percent, which makes them a fairly desirable load for us. We like these people. They help us to use our system more efficiently through the winter. So that's the key for the space heating customers versus the non-space heating.

Did that help?

Q. Yes. Okay. I'm sorry. Go ahead.

A. Quite all right. I really think these graphs are key, and so I really want you to ask as many questions as you want. As if I could stop you.

The fourth graph is small general service. Again, you see a fairly distinct air conditioning load, but you also see they've got a fairly low base load, but they come in at 9:00, 8:00, something like that. You get this wall where, okay, they come on and they turn on their stuff and it just comes up, and if you could turn the graph around and see the other side, at about 5:00 in the afternoon it just drops dramatically. It comes up, runs through the day and then drops.

It's kind of a fun load to serve, but they again are a fairly -- you can't serve a load like that with just base load. Okay. The base -- the big coal-fired units don't have that kind of ramp rate. They can't accelerate that fast. So you've got to have some gas-fired stuff, things like that to serve this load.

If we go to the fifth page, this is large general service. Oh, I suppose I should tell you what these -- a typical small general service customer would be like the individual stores in a strip mall. We're looking at customers with a demand of 100 KW or below. And it goes all the way down to, you know, the billboards you see on the side of the highway. Some of those are small

general service. So it can go from very, very small customers to moderate-sized retail businesses for the most part.

You go to large general service, and there the demand runs typically from about 100 KW to 500 KW. This is going to be your smaller stores, the old Wal-Marts, before they started supersizing their Wal-Marts, would probably fit in something like this. The new Wal-Marts are huge.

Q. So they would be more large general service?

A. The new Wal-Marts, Super Centers, they're going to be large power.

Q. Oh, really?

A. Yeah, because their demand actually goes up quite a bit above 500 KW. But smaller grocery stores, small commercial businesses, small industrial businesses, we divide this based on load, not on what they do for a living. So you could be an industrial customer and be in this group.

Now, here you still see some of the -- you know, they turn on at this time of day and you get this ramp up, and in the evening you get the ramp down, but it's not nearly as dramatic as it was for the small general service. The load factor is much higher than it

had been before, and in fact, this is the first time when we get -- other than for the space heating residential heating customers, this is the first time we get above the system average load factor.

So these people actually use electricity more efficiently than our system does on average. So we like them, too, as far as just helping us to do this. They also have a higher summer bump, but it's not nearly as dramatic for either residential or for small general service. The weather doesn't impact them nearly as much.

If we move then to the sixth graph, these are the large power service customers. This would be people with demands over 500 KW. These would be the very large Wal-Marts. This would be the -- certainly all of the industrial customers are served on these rates.

And what you see looking at this graph, I mean, and again, the load factor here is 69 percent, radically higher than what we've seen before. Again, they bump up some during the summer, but as Staff has pointed out in their weather normalization, it's not particularly related to the temperatures through the day.

Residential customers are very highly sensitive to what the temperature is. These customers, yeah, there is some effect of that, but for the most part you don't see that one degree temperature increase has an

X increase in load. And to that extent, these customers, we do not weather normalize this. The parties agreed that this was not an appropriate class to weather normalize.

You look through here, and I'm -- I know what I'm looking for, but if you notice the V shapes on the end of the graph nearest the front, those are actually weekends, and Saturday/Sunday the load will drop down. That's what all those little hatch marks are. And if you look closely, you can see at the very first, that's January 1st, when a lot of industrial customers shut down. I think you can pick out Memorial Day, Fourth of July, certainly the Thanksgiving and Christmas, you can see those spikes dropping down. So, I mean, you can start seeing things and start seeing what's happening with the system with a class like this.

A load shape like this would come very close to being able to be served by a coal-fired plant exclusively, because the ramp rates -- and I say ramp rate, that's a term that refers to how quickly a generating station can accelerate to change its load from one level to another. This isn't changing its load very quickly, so a bigger unit like that could ramp with it.

And the last graph, frankly, I just included because I thought it was cool. It doesn't copy very well. This is the lighting class, and it basically

just shows, you know, when it's light out, these turn off, and when it's dark, these turn on. I know that sounds dumb, but part of the issue here is that it does, in fact, follow sunrise/sunset through the middle of the year. When our system is peaking during the summer, the lights actually aren't on during the peak period because the days are longer, right? And it's only when you start moving to a winter allocator, to a 12 CP kind of allocator that you actually start getting lighting loads hitting during peak periods.

At this point, you move to a philosophical question. Okay, this lighting load, it kind of helps the system, but should you allocate any demand to them or not? And I've heard it argued both ways. Ultimately we think there's got to be some capacity of the system to serve their load, whether they're on or off peak.

And that's why they used the average -- well, the excess portion of it in the allocator we created is because we didn't think anybody deserved a free ride. It's certainly not as if we used their non-coincident peak and said they should pay for their maximum demand, but we thought they should pay for something. And so that's one of the reasons I added this graph in.

Those are the load shapes. If you go back to the front, to the first one, the system load, page 1 of

7, you can get a sense of the different parties' demand allocators from this graph. Now, ours is a 3 CP average and excess. And what that basically means is, you know, we have months and months exist as an accounting feature and so that applies to us because they are -- exist as an accounting entity, not because there's any real difference between July or June. That's just an artifice we put on this, right?

But we have these split up, and we say, all right, for Missouri Public Service we have four summer months, and we'll look at those months and we'll say, of those four, which three are the hottest, because -- and Missouri Public Service and L&P is similar. Typically you're going to have three of the four summer months are going to be fairly closely grouped, and the fourth one will be lower, and it just depends on which year it is whether it's June or September. It's almost never August. August is almost always the highest.

And so we say, instead of taking one peak, the August peak, whenever that occurred, you take the average of three different months, because sometimes either there's a problem with the load research data or sometimes a customer does something squirrely once, and if it's a large enough customer, it has an impact, so we take an average of three.

We say, okay, we have a good sense that this is what's really going on with the system. This is what they're really using on the system. And then like I said, we didn't feel that anybody should get a free ride, and so we added the average and excess calculation to say, all right, there is some value to diversity here.

And so that mixes in the peaks. That says, we're not just going to say, you know, this is your maximum amount during the year, we're going to nail you with it. It says, no, in fact, it costs the system less to operate because we're all on it together and we do have different load shapes than if -- you know, if you had to serve the residential load shape by itself, that would be insanely expensive.

Well, I say that. Ultimately I think electricity is a good value and people would pay -- I mean, certainly in New York and Hawaii, they're paying 15, 16 cents a kilowatt hour. I don't know if they're glad to do it, but they're willing at least. So that's what we try to do with our demand allocator is say, you do in fact have some cost to the system, you did in fact create this peak here in the summer, and that's the one we have to serve. That's what we have to buy all of this stuff to serve, but let's not just nail everybody with their maximum demand because, yeah, we can serve it all

together for a lower cost than individually. So that's how our system worked.

I'm not sure -- I guess my complaint with the Staff's time of use allocator is that there is this base load section, the bottom of this graph here at Graph 1 or page 1 of 7. And frankly, the industrial customers are the bulk of that chunk. Okay. You remember looking at their load shape. It's very flat. They're the ones who are creating the bulk of that base, and Staff's time of use allocator by using marginal costs in its allocator, which is what's the cost of the last, the most expensive unit, well, the industrials have all of this power that they're going through, all of this energy, and if you're charging that out at the margin rather than at the average, I mean, let alone what its actual cost is, but if it was just the original cost, that would help them. But by charging them at the margin, you are shifting a substantial amount of cost based on energy to those customers.

Now, if they had -- if the Staff had gone through and said, okay, here's the base load for residential, remember I said residential had some base load as well. It's fairly low, but there's some base usage. If they said, everybody pays for the base load at this rate, and then here's the intermediate load and

you'll pay for it at this rate, and here's the peaking load and you'll pay for it at this rate, that would be reasonable, I think.

But they charged everybody at the margin all the time. And that nails the high load factor customers, and I think inappropriately, so when I say nail, I mean it inappropriately allocates costs to those customers beyond what it costs us to serve them. Those customers, in fact, benefit the system and help keep our costs down. This kind of an allocation is entirely inappropriate. I like my graphs.

JUDGE THOMPSON: Commissioner Gaw, further questions?

FURTHER QUESTIONS BY COMMISSIONER GAW:

Q. Do you have some of these graphs for the L&P system?

A. I did not make them. I mean, they exist. I did not include them in my testimony. Ultimately they look very similar. The difference would be --

Q. I'm confused. Did you make them or not make them? I thought you said that they look very similar, but I thought you said you didn't make them.

A. I didn't include them in my testimony, sir.

Q. So you did make them?

A. Yes, I did.

Q. Okay. Now I understand what you're saying. So they would be available if we wanted them?

A. I didn't print them off, but yes, sir, I could -- well, I left all that data up in Raytown, but I presume Staff has all of that information. It's 20 minutes work to create all those, once I have a PC and a printer.

Q. Okay. Maybe we can see that at some point.

A. All right. They look very similar, sir.

COMMISSIONER GAW: That's all I have. Thank you, Judge.

JUDGE THOMPSON: Commissioner Clayton?

QUESTIONS BY COMMISSIONER CLAYTON:

Q. Mr. Tracy, I only have a couple of questions that I was hoping for. I'm a little confused. How many class cost of service cases has Aquila or MPS, L&P had over the last 20 years, do you know? I picked 20 as an arbitrary figure. I'm just talking about in recent --

A. Well, 20's a good number because I've worked at Aquila for almost 21 years, so I guess I'm good at this one.

Q. Good.

A. As I recall, the '93 case, which is -- I don't -- I don't remember the number. I'm sorry. I refer

to it as the '93 case.

Q. I don't need numbers.

A. There was one for MPS.

Q. That was in 1993?

A. Yes. And for L&P, obviously we weren't -- we didn't own them then. I believe it is before then, but I'm not sure how much before then.

Q. Okay.

A. So it's been 13 years at least.

Q. So only two, one for each system in the past 20 years?

A. Yes.

Q. Okay. And MPS is a -- that's a system that has been Aquila or UtiliCorp or Missouri Public System, that's the original system that's part of the Aquila family?

A. Missouri Public Service created UtiliCorp United, which then became Aquila. It's kind of annoying, but yeah, MPS is the --

Q. Okay. So in the past 20 years, there's only been one class cost of service case?

A. Well, this is the second.

Q. Second in 20 years. Okay. And Light & Power, there was one and it preceded the 1993 case?

A. Right. And so this is the second.

Q. Okay. Do you know how different this graph would look in 1993 as it does today, your exhibits?

A. Yes.

Q. Has the load changed since 1993 or would it be substantially similar?

A. See, because I've been doing load research for the bulk of that time. That's what I started in 20 years ago. I would say it was substantially similar.

Q. But do you know or you -- I don't mean to discredit. If you don't know, just say you don't know. I'm good with that.

A. I will put it this way. We have since that time acquired properties in Kansas, in West Virginia and Colorado. We have since disposed of the one in West Virginia. We're preparing to dispose of the one in Kansas. I noted when we did the Colorado study the difference in the load shape than what I've been used to in Missouri. They don't have the air conditioning load, though it is actually growing in Colorado. I was raised in Colorado. I amazes me that anybody wants to air condition out there.

Q. Glad to know that.

A. Sorry. I get talking.

Q. We know.

A. I'm aware of that, too. But I like my

voice, so what the heck.

I noticed significantly the difference in the load shapes for Colorado for residential in particular. I have not noticed that kind of a change in the Missouri load shapes over the years. So I believe that the load shapes would be very similar, but I don't have them with me.

Q. And that would be the case for each of the different classes of users in terms of residential, in terms of the large and the small commercial users, that would be the same for all of the different classes?

A. The only significant shift that comes to mind would be for residential space heating, which has been growing at what I consider a fairly phenomenal rate.

Q. What does residential space heating mean?

A. It means that they use electricity as their primary source of heating. 20 years ago that basically meant resistance heating, baseboard heating, that sort of thing, resistance element. For the last ten years that has basically meant heat pumps.

Q. So it could include a larger centralized unit rather than just a traditional space heater, quote, unquote, you would think of?

A. Oh, yeah. Almost all of these would have been some sort of central heating.

Q. Okay. How about the use of -- excuse me. How about -- so for each of the -- in the general service categories, to the best of your knowledge, there would be no change or no substantial change from levels used in 1993?

A. Well, I would say no change in the shapes. As far as the levels, I was hearing I believe Mr. Conrad list some of the customers, and the ones that came to my mind were in Kansas City, the -- what used to be Western Electric, then the AT&T plant. They used to be a significant load. I'm thinking on the terms of 20 megawatts. They're not anywhere near that now.

Q. Okay.

A. The TWA overhaul base.

Q. Hang on. Before you get into this, I want to make sure I understand. So when -- in my question you were referring to the overall shape of the load in terms of the graphs that you supplied and your rebuttal Schedule JMT-2. On the levels that you talk about, the levels have changed since 1993?

A. Yes, I would say certainly the level has grown. I know our demand has gone up significantly.

Q. In each class?

A. I would say in each class.

Q. Okay. Has it even grown in the class that

would include the businesses that have closed that you've referenced?

A. I believe so.

Q. Okay. What were the users that -- the large users that are no longer in business, can you go ahead and give us that list?

A. Yeah. Well, for me it was the big two. I mean, AT&T used to be our largest user on the MPS system. They're not anymore. Haven't been for years.

TWA then became our second largest user -- well, became our first largest user after AT&T cut back, and I don't believe they've shut down operations yet. I haven't seen anything in the paper about that. There have been a number of agreements between the City of Kansas City and whatnot, but their level of load is well below -- I mean, at one point it was also at about 20 megawatts, and I'm guessing now it's probably closer to 3 or 4, but I haven't looked at that closely.

Q. Now, even with those closures, you've testified that the demand in each class, including the large users category, has still gone up?

A. Yes.

Q. Correct?

A. The Kansas City region has been growing regardless.

Q. And has that growth as a percentage between '93 and the present been the same in each category?

A. I don't know.

Q. You don't know. So can you answer -- I guess then you would not know the differences in growth between residential and commercial, large versus small commercial, any of those comparisons?

A. No. I know about -- I know about the residential between the space heating and the non-space heating. I have a sense of that, but on the others, I didn't bring that data with me.

COMMISSIONER CLAYTON: I don't have any other questions.

JUDGE THOMPSON: Commissioner Appling?

QUESTIONS BY COMMISSIONER APPLING:

Q. Mr. Tracy, would you go back to page 2 of your direct testimony. I think my question is kind of based around line 18. Would you -- what is the A&E 3 CP demand allocation method and why do you think that that is the best method?

A. The A&E 3 CP has to do with taking the three maximum peaks during our summer period, that's the three CP. It's -- CP is for coincident peak. And the top three of those that occur in any summer, typically you're going to have a peak occur in early August, so we'll just

say -- and I don't remember what the dates were, and ultimately it doesn't matter.

On some August early dates, typically at around 5 p.m., our system is going to peak. And through load research we can estimate how many megawatts each class is using at the time that our system peaks. And so then you get a percentage, you know, residential has, you know, whatever percent that is and each class then has their percent.

You do that same calculation then for two other summer months, the two other highest peaks closest to that, and then you take the average of those three. So that way if something happened to be going on at some point with a large industrial customer on one day, they'd shut down for whatever reason or whatever, that that doesn't unduly influence the results of that.

So you take three peaks and you say, all right, on a peak time, on average, this is what's going on class by class. That takes into account to some extent -- well, the peaking issue. What then we have -- we need to reflect is two other things. One is that there's some value of diversity to the load, and there is some value to the loads that don't happen to be on at the time of the peak to having demand available to them, and that's basically the lighting class is why that has to come in.

So that's the average and excess parts of that calculation, is it says, all right, everybody uses the system all throughout the year, and that's the average part of that, and so it takes some account into that. And then the excess is done on this 3 CP. So that way you get this mix that says, all right, our system, all that capacity we have in place, is there to meet that summer load. That's why we have 1,400 megawatts of generation is to meet that 1,400 megawatt peak.

And so you allocate as much as you can on that, but then you have to -- well, I felt we had to account that there is some value to all of us working together to float this boat, and so the average and excess calculation does that. It says, okay, but being diverse in loads, we can have a cheaper -- we can run the system more efficiently than if we served each load individually.

That's why I feel like the average and excess 3 CP best follows the load shape that our system deals with and still accounts for the diversity of load and that nobody gets a free ride. Did that do it?

Q. What are you basing this on? Is this your method or is it one that has been proven and tested, or is it just one that you're pulling out of your pocket here this morning?

A. Both. Coincident peak methods are tried

and true. I believe the standard FERC is 12 CP. Am I remembering that correct? I can't look at them, right? I'm testifying. Seems to me FERC uses 12 CP. Coincident peak methods have been used for years, average and excess is I'm -- I'm going to guess, and I can't tell you this for sure, but in my review of other commissions and what's going on in the industry, average and excess is probably the most popular method of other commissions.

The time of use method of the Staff, I mean, as they have said this and OPC has confirmed, nobody else uses this. No other commission has said, hey, this is the way to do this. The Missouri Commission adopted this method some 20-some years ago. You know, in 20 years no other state has said, wow, they've really got something there.

I'm sorry. It's hard for me to understand how the Staff justifies this method. But, you know, I'm not the Staff. So that's not my job to understand, I guess.

COMMISSIONER APPLING: Thanks.

JUDGE THOMPSON: Commissioner Murray, you had some additional questions?

COMMISSIONER MURRAY: I do. Thank you, Judge.

FURTHER QUESTIONS BY COMMISSIONER MURRAY:

Q. Would you take Exhibit 25, do you have a copy of that?

A. Not in front of me.

Q. Mr. Swearengen passed that out earlier. And first I want to go back to page 6 of 7 of your JMT-2.

A. Just a moment. Yes, Commissioner.

Q. And this was the class, the large power service that has the most efficient use of the system, right? Is that correct?

A. Correct.

Q. I'm wondering if you look at Exhibit 25, why it is that the reduction or the percentages allocated to large power service class versus the large general service class, why the large power service class is receiving less of a reduction under Aquila's recommendation there. Is it because the current method did not skew the results to that class as badly as it did to the large general service class?

A. Yes, ma'am, that would be it.

Q. So the methodology that Staff has used that the Commission adopted some 20-some-odd years ago, it's your testimony that that creates a large imbalance in terms of the actual class cost of service; is that correct?

A. Yes, ma'am. There are other factors

involved, but yes.

Q. And then some of those imbalances were greater than others, and it appears -- it would appear from looking at Exhibit 25 that for the MPS system, that the greatest discrepancy was with the large general service class; would you agree with that?

A. I'm sorry. Could you repeat yourself?

Q. Under the current methodology, in the methodology that Staff is recommending again, I believe, it would appear that the largest discrepancy there would be with the large general service -- large general service class; would you agree with that?

A. Yes, ma'am.

Q. And that in the L&P territory, it looks like the small general service class might be experiencing the largest discrepancy at the current time?

A. Yes.

COMMISSIONER MURRAY: I think that's all. Thank you.

JUDGE THOMPSON: Other questions from the Bench?

CHAIRMAN DAVIS: I've got some, Judge Thompson.

JUDGE THOMPSON: Chairman Davis?

FURTHER QUESTIONS BY CHAIRMAN DAVIS:

Q. Mr. Tracy, I have to ask, is there anything that you want to tell this Commission that you haven't already had the opportunity to say? Anything else out there? Let's just get it all on the table right now.

A. All right, sir. And I hope no one else will --

Q. And can you do that, you know, sometime -- can we finish before lunch here?

A. I didn't bring a watch up here with me, so I don't know when lunch happens.

Q. It's 11:40.

A. Okay. I will be brief.

Q. Judge Thompson gets hungry about noon.

A. All right. That's fair. And I hope no one will think ill of you for asking me that. I think the main other issue -- we've all been focusing here so far on the cost of service. The other issue that I would bring up is the rate restructuring, the rate design.

There's been some comment that, you know, we just kind of tossed this together and threw something out there, and that on even a cursory review you can see there's big problems. My argument is going to be that the cursory review was a little too cursory, because, no, there aren't those problems.

We started talking about rate

restructuring, rate redesign within months -- and by months I mean like two or three months, I think. I don't remember the exact date -- of the end of the case that initiated this whole process. So we've been talking about rate restructuring for over three years, and I'm -- how do I say this nicely? I'm really annoyed that the Staff has come in and said that we somehow on a whim tossed out this rate design that we've been talking about with them for the last three years.

Now, they haven't seen -- they didn't see the final proposal until our direct testimony, but it's not like we haven't talked about this. It's not like this was a surprise. And so for all the parties to be saying, oh, we shouldn't be doing rate restructuring, what's brought this up, well, you know, come on. Pay attention friends. We've been talking about this for years.

And I think I included in my testimony some of the exhibits that I provided to them saying, here's some of the issues we have. So that's the short version.

Q. All right. Thank you.

Now I'm going to go back to your -- some of your previous testimony. Earlier, I think maybe in response to some questions by Commissioner Gaw, you talked about, you know, ultimately -- and I don't want to put words in your mouth, but I think what you were trying to

say was that ultimately, in one way or another, all costs will eventually be passed on to residential users; is that a fair statement?

A. Yes, sir.

Q. And I think that was the point that you were maybe trying to get to, but you weren't trying to get to it precisely.

You've talked about Staff's methodology?

A. Yes, sir.

Q. You haven't said anything about OPC's methodology in this case. Would you care to comment on that?

A. Okay. OPC --

Q. Be nice.

A. Yeah. I'm aware. I have to work with these people regardless, so I do want to be nice. I like most of them, and I won't point out which ones I don't like.

OPC I think by their own testimony has said, we used something that was close to what Staff used because we didn't do what Staff did, either didn't have time or whatever reason that you get. The impression I got is that they would have rather used what Staff did, but they didn't.

MR. MILLS: I'm going to have to object and

ask that that be stricken. His impression of what we thought we might have wanted to have done has no relevance to the question that was posed.

JUDGE THOMPSON: Sustained.

THE WITNESS: Fair enough. OPC provided an allocator, demand allocator that is very similar to Staff's in its outcome, if a bit more extreme, as I've described in my testimony, as far as being closer to an energy allocator than even Staff went to, for demand. I don't believe that it has any more relevance or appropriate -- it is no more appropriately used as a demand allocator than Staff's is. My impression is that OPC spent less time on theirs than Staff did, and I believe that shows.

BY CHAIRMAN DAVIS:

Q. Well, all righty then.

A. Sorry.

Q. Going back to some previous testimony you gave about conservation and rate designs, if this Commission wanted to pursue a course of encouraging conservation, keeping rates as low as possible, what advice would you give us?

A. I believe the results of Aquila's cost of service and the rate design, rate structures and rate values Aquila has proposed provide the best signals about

consumption of resources to consumers of any of the information provided by any of the parties.

Q. So what's wrong with, is it Mr. Gorman's analysis that was done on behalf of the Industrial Users? What's wrong with their analysis again?

A. You're going to have to help me with the name. Gorman is not sticking in my mind.

Q. I'm sorry. Brubaker.

A. Mr. Brubaker.

Q. Yes. They're known associates of each other. The SIEUA, AG Processing, FEA plan differs from your proposal how so?

A. Their allocator is fairly similar to ours. They have used a more standard average and excess calculation than we did. Honestly, I haven't looked closely at their study because it landed fairly near ours and --

Q. And so as long as it's near the big bean bag, it's okay?

A. Yeah.

Q. The bean bag you referred to in your earlier testimony?

A. Yes, sir.

Q. So it was close enough to the big bean bag?

A. Well, I was more concerned ultimately about

Staff's and OPC's than with Mr. Brubaker's because they were so radically different from ours.

Q. Have you given testimony before other state commissions?

A. Yes, sir, I have.

Q. What other state commissions? Refresh my recollection.

A. I've testified below -- before the Colorado State Commission. I have not given oral testimony before any other commissions. I have filed written testimony in Colorado, Kansas, West Virginia, Missouri, Minnesota.

Q. Okay. In those states that you have either filed or given live testimony in, how many of those -- which ones of those states have you given testimony on the issues that are here in front of us today?

A. I know Colorado, Minnesota, but that was a gas case, which has a little different flavor. Kansas wasn't cost of service. That was a rate case, revenue case. And West Virginia, that was cost of service, both gas and electric. And I guess in Kansas we did end up doing a cost of service as well. So I've done cost of service in all of those.

Q. Okay. And can you compare your experiences in those states to your experiences in this regulatory process so far? I mean, how did the -- I guess the

Commission staffs differ in their approach versus Missouri?

A. As far as the part that is I think most relevant to our case here, none of them used the demand allocator that Staff has proposed, the time of use allocator. I believe each of them had, you know, their own little piece that they -- that we opposed that they supported. I know in Colorado they had not before that case supported a minimum system study, and, in fact, we were able to win over the Commission and they, in fact, supported -- it wasn't, in fact, a minimum system. It was a zero intercept study. That was a difference.

The others are going too far back in my memory to remember, but this is the only Commission where we faced this particular allocator that the Staff has proposed. Did that answer your question?

Q. Yes. Going back to my previous question, I think, I'm going to paraphrase your response and you tell me if it's correct. When I asked if we were going -- if this Commission were going to pursue an avenue of encouraging conservation, keeping rates for customers low, I think your response was in essence to follow the Aquila recommendations. Is that a fair characterization?

A. Yes, sir, it is. The Colorado Commission did that.

Q. Okay. All right. So tell me one more time how your recommendation encourages conservation, part 1, and then part 2 is, is there anything else that you think this Commission could be doing to encourage conservation?

A. I guess I would ask what you mean by encourage conservation. My perception of conservation is to use those resources to the extent that it is cost justified to use those resources. If you just mean by conservation how do we make people use less, I think that's a different question. I would oppose that personally. And there -- and the short answer on how you get people to use less is you charge more, and since we can't do that, that would be a tax issue and just imply a tax.

Q. Okay. I understand that. But -- okay. Let's just think about the concept of, you know, we've seen your peak demand graphs here. Then I guess you are familiar that we require, you know, utilities to have a reserve margin of electricity?

A. Yes, sir.

Q. I'm assuming that Aquila hit some new high peaks this past summer?

A. We used to publish all this stuff internally, and I haven't seen that this summer yet.

Q. You're not aware that you did hit any new

peaks?

A. But it would not surprise me.

Q. But it would not surprise you. And do you think it would be good public policy for us as a Commission to do something to maybe discourage peak usage?

A. Not necessarily. I think part of the issue becomes that if you discourage people from using electricity and they need to use energy one way or another, okay, if you're an industrial customer and you've got to make 10,000 widgets, 10,000 widgets takes X amount of energy. Okay. Unless you completely change the process, you've got to put this much energy into the widgets.

If I just raise the price, at some point they say, okay, it's cheaper for me to use a different form of energy or else to shift my production to someplace else that has lower energy costs. It's hard for me to support throwing something out of balance.

Q. All right. Well, Mr. Tracy, I guess what I'm trying to say is, I'm looking at your -- going back to your graphs that you are so fond of, as you've made note of here today, compared to the residential and the commercial are -- I'm sorry -- the small general and large general service, you don't have the peaks with industrial usage or the peaks aren't nearly -- don't appear to be

nearly as pronounced as they are with regard to the residential and the small generals and the general services graphs. Is that a fair statement?

A. Yes, sir, that's correct.

Q. So if you were to restrict your answer to residential small general, which might -- I guess I'll let you answer. Let's set the industrials out of the equation for a minute. Does that change your answer at all?

A. I believe for the residential in particular, to the extent we have listed inclining rates in the summer, where the rates increase with increasing usage, I believe we block them at 600 kilowatt hours a minute and then 1000 kilowatt hours. The rate changes at those two points.

Q. Okay.

A. That that effect will, in fact, provide some conservation impact, in that it will send a price signal to customers, the more you use, the more it costs.

Q. And so you think that pricing differential is significant?

A. To the extent it is not a declining block, then, yes, it becomes much more significant. When compared to the winter rates where you do have a significant step down as you increase usage, that's -- that's where the difference comes.

Q. And you have -- correct me if I'm wrong, but you testified earlier you have no idea where your demand has come from in terms of increasing or decreasing across customer classes in the last four years; is that correct?

A. Correct. Other than, as I said, between the two residential classes, the space heating class is growing very quickly, and the non-space heating class is fairly flat.

Q. Okay. Can you get that information for us?

A. I can. Can you tell me what years you want to know the -- well, wait a minute. Let me think for a second. You're wanting not just change in number of customers, but the actual change in demand?

Q. Well, I want usage, actual usage numbers for particular classes.

A. Energy.

Q. Okay. Energy.

A. That I've got.

Q. You've got that. Can you get it to us for, say, the last ten years?

A. I can get that for the last ten years.

Q. Okay.

A. For MPS. I'm not sure about St. Joe, that our data goes back that far. I don't remember when we

bought them.

Q. Will you get us whatever you've got for St. Joe L&P, and then can you get us ten years for MPS?

A. Yes, sir.

Q. And can you give us a reasonable estimate of when you're going to have that information for us?

A. If the computer works, our little long distance link, I should be able to have that by tomorrow morning. Perhaps sooner, but I'll give myself that much time to make the computer work.

CHAIRMAN DAVIS: Thank you, Mr. Tracy. No further questions.

JUDGE THOMPSON: Other questions from the Bench?

I have some quick questions for you.

QUESTIONS BY JUDGE THOMPSON:

Q. You're one of three Aquila witnesses, correct?

A. Yes, I am, sir.

Q. So what is your piece of this puzzle?

A. I am the policy witness. I am the guy who puts together what Mr. Gray and Mr. Stowe have done. Mr. Stowe is our primary cost of service witness. Though I am the one who made the decision about the peak allocator, he's the one who actually got to do the --

manipulate the software.

Mr. Gray put together the -- much of the rate design and the proof of revenue to show that the money we're collecting off of our proposed rates actually collects the same amount of money as we're supposed to get so it is, in fact, a revenue neutral process.

Q. Okay. And the study that the team of the three of you did was using the billing determinants that were provided this past August; is that correct?

A. Yes, sir.

Q. Okay. And those billing determinants represent what period of time? When were they collected?

A. Okay. This one gets more complicated because I believe it was the 2002 calendar year, updated for known and measurable through September of 2003, and as I recall, then additional adjustments were made to bring that up through the last rate case. And I don't remember that rate case's number. So that basically adjusts everything up through I believe 2004.

Q. December 31 of 2004?

A. I believe so.

Q. All right. And the relationship of the graphs to Exhibit 25, what is the relationship, if any, to Aquila's position as set out in Exhibit 25? The graphs show the data, the load shapes for MPS, correct?

A. Right. And that is, in fact, for the year ended May 31st, 2003.

Q. Okay.

A. Even though the graph starts on January 1st, the data actually begins on June 1st of 2002, and then runs through May 31st of 2003.

Q. Okay. What's the standard deviation for the data reflected in your graphs?

A. It depends on the class.

Q. Okay. Is that information in the testimony anywhere?

A. No, sir, it is not. All of the parties agreed to these, the load shapes, and they were all given the opportunity to review them and have all said this is the data we will use.

Q. You were talking earlier about confidence level?

A. Yes.

Q. What particular test or manipulation did you do to determine the confidence level?

A. I know the math I do. I don't remember its name. You have a number of contributors, sample points, customers that are -- from which we are collecting load research data, and so at a given time you take all of the values for each customer and then you do a -- you

calculate the standard deviation of that group.

And it gets a little more complicated because it's not just a simple random sample. It's in fact a -- you caught me off guard here. It is a stratified sample, and so there are some other modifications you have to do to the technique, but the basic premise is you calculate a standard deviation and you say, all right, at the time of system peak, which is the only time that you really have to calculate this based upon the purpose standard, that the data was at the plus or minus 10 percent relative accuracy at 90 percent confidence at that time.

Most of our data is better than that. Certainly the large power service class, which is based not on a sample but on a census, we have recorders on all of those customers now. Now, from time to time recorders fail, but for the most part the large power service is not plus or minus 10 percent. It's going to be, this is the number, because we had all of them.

Q. Well, how many residential customers are there?

A. Mr. Gray probably knows this better than I, but I will say it's about 200,000 residential customers.

Q. And how many of them did you sample?

A. Of those, residential non-space heating

customers -- there are actually two separate samples -- the residential non-space heating customers, I believe, was around 120 for MPS and probably something similar to that for L&P. There were actually two separate samples, an L&P sample and an MPS sample.

Q. Would it have been the same number in the space heating subset?

A. A similar number.

Q. And you did this by placing some kind of device on their meter?

A. Yes. It's a recorder that basically reads the meter every 15 minutes, is the net impact.

Q. Within the group of residential customers, how were the -- how was the sample chosen? In other words, how did you decide which 120 of 200,000 customers you were going to sample?

A. The short version is it's just a random drawing.

Q. So there was no effort made to make it representative with respect to the income group, for example, that the customers reflected?

A. No, income was not one of the parameters of the study. We wanted to measure energy, and so it was based on that.

Q. Very well. And finally with respect to

your criticisms of the methods used by Staff and Public Counsel, it is your testimony that the time of use allocator used by Staff is unique among the commission staffs in this country?

A. Yes, sir, it is.

Q. And that that has been used by this Staff for approximately ten years?

A. I believe it's been longer than that.

Q. Longer than that?

A. Yes.

Q. Okay. And I think you characterized it as inappropriate?

A. Yes, sir.

Q. Okay. And exactly why is it inappropriate?

A. I believe it is inappropriate because it does not give the better power factor customers -- I'm sorry -- load factor customers. Power factor is another animal -- the benefit of their base load use. It charges base load usage at marginal, which is to say peak prices. That makes it inappropriate.

Q. So the higher the load factor, am I correct in understanding that that represents the more even or sustained use of power?

A. Yes.

Q. For that customer?

A. Yes.

Q. And consequently, that's why the industrial customers and large power customers tend to have higher load factor?

A. Yes, sir. They tend to be running multiple shifts, and so their usage tends to be fairly constant.

Q. And you're criticizing Staff's method because it charges them at the highest use, charges every customer at the highest use they make?

A. It charges not the customer. It takes the highest cost of energy to the system, and it says at this hour -- again, let's go back to August when we're firing up all our gas peakers to meet the load. You're charging this marginal cost, the cost of the most expensive gas peaker you've got on right now for all of the energy that's being generated.

It doesn't give anybody -- let alone the industrials, but it doesn't give anybody credit for the 360 megawatts of one cent power coming out of Sibley, and so nobody's getting that credit.

Well, the residential customers from these load shapes, they're the ones who are predominantly causing that summer peak, and so to charge everybody the marginal cost and nobody gets the average, let alone the minimum cost, is one way to dump additional dollars into

the industrial basket and to get some away from the residential customer.

Q. Okay. What is a more appropriate way of doing this, in your opinion?

A. Well, my short answer would be our way.

Q. Okay. Give us a little bit longer version.

A. A little longer than that. You need to come up with a method, and I don't believe Staff has done this, but there are time of use methods that take into account that there's a base load usage and we'll charge base load prices for that base load use. And then there's intermediate level of usage and there are units that we dispatch for intermediate load, and you charge customers for that. And then there's peak usage, and whoever uses that gets charged for that.

A method like that would be more appropriate. I don't think -- I have not seen that study. I don't know if I would agree with that even yet. But at least something that took into account that you don't charge everybody at the margin would be more appropriate.

Q. And it's your opinion that the study that you're sponsoring does do that?

A. Correct.

JUDGE THOMPSON: I have no further questions. Thank you.

Other questions from the Bench?

COMMISSIONER GAW: Just hopefully briefly.

FURTHER QUESTIONS BY COMMISSIONER GAW:

Q. Mr. Tracy, the other states that you talk about your understanding of their methodology not being the same as what the Staff in Missouri has taken, can you give me a rundown, the positions on their methodology that they propose are proper in those other states?

A. As I recall, Colorado was average and excess.

Q. Average and excess?

A. Yes, sir.

Q. Okay. Is that the same as what you're using here or different?

A. It's in the same flavor, same family, but the technical calculation, I believe they were using an average and excess with a one NCP, one non-coincident peak as the definition.

Q. Okay. Go ahead. What else? Who else?

A. The other states, it's been too far back, and certainly on the gas cost of service it wouldn't -- it's not appropriate to make a direct comparison.

Q. Okay. Well, what other kinds of methodologies are you familiar with that can be utilized in these kind of cost of service analyses?

A. The main ones you're dealing with are going to be average and excess, which as I say, I believe that's probably the most popular right now. You've got average and peak, and off the top of my head, I'm afraid I could not describe the difference for you. I believe Mr. Brubaker provided some description of that in his testimony. Somebody did. Then you've got coincident peak methods, and it's just a question of how many peaks you put together. You can have one coincident peak, two, three. We have in the past proposed four CP, four coincident peak.

I'm trying to remember. And then there are and I forget the term they used. Do they call them -- I can't look over there and ask anybody. The NARUC manual lists a category of I think time of use. I'm not sure that's what they call them. But that's where we would have placed what Staff has used. We believe they have not used any of the methods recommended by NARUC to the extent that they haven't split the groups out the way to base load, intermediate and peaking.

Q. Let me see if I can -- is that it? Did you cover them?

A. And then there's the two extremes. You've got energy and then non-coincident peak at the other extreme.

Q. All right. And those are all methodologies that you're familiar with?

A. Yes, sir.

Q. All right. Back to the time of use issue, when you're -- you were describing that NARUC has at least some provision for time of use methodologies, and -- but you think it's utilized differently by Staff in this case. Is that what you were saying?

A. Yes, sir.

Q. Now, so you do not necessarily criticize or say that it's wrong to use time of use as a general methodology, do you?

A. I haven't looked closely enough at the results of a study that's done the way the NARUC manual suggests to where I could tell you that, yeah, this makes sense or this doesn't. For the most part, if you look at I think my other graph -- yes, Schedule JMT-1 in my rebuttal.

Q. Yes.

A. I mean, for the most part, most of those allocations end up landing fairly near each other.

Q. Okay.

A. And so I would have to take a look at it. I mean, there's -- you know, we can all have fun talking about theory of this and theory of that, but if at the end

of the day the result is ridiculous, then either your theory is bad or your application's bad. Like I say, I have not seen the results of this study done in accordance with the NARUC manual as far as the time of use.

Q. When you testified earlier that you think the time of use methodology is not utilized by any other state, were you talking about the time of use methodology as described in the NARUC material, or were you talking about the particular methodology that was utilized by Staff in this case?

A. I was actually referring to the method used by Staff. I will also say, I am not aware of any other state using the methods recommended in the NARUC manual for time of use either, but certainly, I mean, Staff has said nobody else uses it.

Q. So you don't know whether or not other states might be utilizing the methodology that's called time of use in the NARUC manual?

A. I don't know. I do know that I -- well, how do I say that? I have not heard of any other states using that method.

Q. You don't know of -- you don't know whether any other states utilize that method, correct?

A. Correct. I have not studied all 50 -- well, other 49 states and the District of Columbia and

Puerto Rico.

Q. How many states have you studied in regard to what their -- the particular methodology is that's utilized by state commissions?

A. I would guess I'd say over 30 that I've looked at. I mean, I -- it's ongoing literature that I see coming across my desk of what's going on in other rate cases in other states. You try to keep track of that sort of thing, but I can't say that I went through and said, okay, let's look at this demand allocator specifically, but somebody else using a time of use allocator, because this has been an issue in Missouri for years, if I notice somebody else using that or something similar, that would jump out at me.

Q. Sir, could you tell me the methodologies utilized by those 30 states and the names of the states?

A. No, sir, not state by state, and not method by method.

Q. So you don't know what those methodologies are on a state-by-state basis through those 30 states?

A. No, I do not.

Q. Do you know whether or not the methodology utilized by Staff in this case was one that was adopted by the Commission as a Commission decision at some point in the past?

A. I -- I think that becomes a legal question as to whether --

Q. I'm just asking whether you know.

A. I don't know.

COMMISSIONER GAW: Okay. Thank you, Judge.

JUDGE THOMPSON: Thank you. Additional questions from the Bench?

(No response.)

JUDGE THOMPSON: Okay. I think we're done with you. It is 20 minutes after 12. We're going to take the lunch recess. Obviously we're going to have recross based on questions from the Bench. When I said we're done with him, I meant prior to the lunch recess, Mr. Williams. I forgot you earlier today, but I won't do it again.

We're going to take a lunch recess of -- let's be back here at 1:30. That's an hour and ten minutes. That should be enough time to find something to eat and get back. We are in recess. Thank you.

(A BREAK WAS TAKEN.)

JUDGE THOMPSON: We are ready for recross based on questions from the Bench, and I believe that will be Major Paulson.

MR. PAULSON: No questions, your Honor.

JUDGE THOMPSON: Thank you, sir. Mr. Conrad?

MR. CONRAD: I do not have any questions either, Judge.

JUDGE THOMPSON: Thank you. Looks like Mr. Keevil has left; is that correct? Okay. And so has Mr. Steinmeier. All right. The list is shorter and shorter.

Mr. Williams, I think it's you.

MR. WILLIAMS: Thank you.

RECROSS-EXAMINATION BY MR. WILLIAMS:

Q. Good afternoon, Mr. Tracy.

A. Good afternoon, Mr. Williams.

Q. In your testimony you indicated that the Staff had said that there's no other state that -- in the United States that uses the allocation method that the Staff used for generation; is that not correct?

A. I believe they said in their -- they were unaware of any.

Q. So you're saying that the Staff indicated they were unaware that there were no other states that uses Staff's allocation method?

A. Staff knows what the Staff did, but that's what they said.

Q. That they were unaware?

A. The Staff was unaware. I'm not sure that's a good thing, but that's what they said.

Q. Do you know how Aquila's last class cost of service rate design case was resolved?

A. The '93 case?

Q. I'm talking about whichever case it was that would have involved either Missouri Public Service or UtiliCorp probably at that time.

A. And I'm sorry, I don't know the docket number, whatever, but I generically refer to it as the '93 case, which is where we implemented the base seasonal rates for the commercial customers. What did you want to know about it?

Q. Was it a contested case in terms of the Commission making a decision on contested matters in front of it, or was it a settled case?

A. I don't recall whether -- typically some issues are settled and others are contested. I'm not sure which went where on that particular case.

MR. WILLIAMS: No further questions.

JUDGE THOMPSON: Thank you, Mr. Williams. Mr. Mills?

MR. MILLS: I have a few questions. Just as sort of a general practice questions, do you prefer the questions from the table or the podium or do you care?

JUDGE THOMPSON: You can ask them from the table. I know it's hard for you to get up and down.

MR. MILLS: Just trying to get the groundrules down.

RECROSS-EXAMINATION BY MR. MILLS:

Q. I've got just a couple of lines of questions. At one point when you were talking about your rebuttal Schedule JMT-2, and I believe you were talking in particular about the second page, which is the residentials -- residential general service, that is, you said a 32 percent load factor is bad; is that correct?

A. I don't remember if I said bad or poor, but it's not good.

Q. Okay. If your residential customers had 100 percent load factor, how often would you run your combustion turbines?

A. That would depend on what other mix of customers we had.

Q. Okay. Is it safe to say that your system is designed knowing that your residential class has a roughly 32 percent load factor?

A. The current system operates with that built into it, yes.

Q. Okay. So to the extent that a percent load factor is bad, then your system is a bad design since it's designed to cover that bad load factor; is that correct?

A. No, sir, it's not.

Q. Is a 32 percent load factor optimal?
A. For what?
Q. I'm just asking.
A. It reflects the reality of how residential customers with current technology use power in Missouri in the current climate we have.
Q. And is your system designed to serve those residential customers' needs, or is it designed to serve some other need?
A. Our system is designed to meet the needs of all of our customers.
Q. So if a significant group of your customers, for example the residential customers, were to significantly change their habits and significantly change their load factors, then your system would not be properly designed; is that not correct?
A. If we did not change our system to meet that change, then you are correct.
Q. Okay. Let me ask you another couple questions about your Schedule JMT-2, and particularly the relationship between page 1 and page 2.
A. Just a moment.
Q. Okay. And I'm also going to be asking you about Exhibit 25, which is the summary of the parties.
A. Right. I've got it here.

Q. Okay. Is it fair to say that in order to get to -- just to use Aquila's cost of service study for example -- the 8.22 percent for residential, one would have to look at both the residential general service and the residential space heating classes?

A. That's the combination, just as all the other parties combined, so we had to make a comparable number, yes.

Q. And to -- I'm sorry. To look at that combination on your Schedule JMT-2, you would have to sort of superimpose 1 and 2 upon each other because they're two separate residential classes, so that essentially you would stack the load curve of one on top of the other to look at the residential as a composite group?

A. Yes.

Q. Okay. Now, if you were to do that, it looks to me as though the peak for the residential general use is about 500 and for the -- the summer peak that is, and for the space heating it's roughly 120 at the summer peak.

A. I believe it's closer to -- for the general use it's closer to 600, and for the summer use for the space heating group, it's closer to 160. Closer to 600 and closer to 160.

Q. So it's sort of a 3D effect that it looks

like it's right at the 120 line?

A. Right. If you look over at the far left, you can see where the shading changes, and you see that the 120 to -- I'm looking at the space heat group.

Q. Got you.

A. Between 120 and 160 you've got the shading. The group below that's the clear, white. And so over here in the middle, you've got the shaded is the top group, so that would be in the 160 range.

Q. So if we say 600 for one and 160 for the other, total's about 760?

A. Correct.

Q. Little bit more than half of your total summer peak --

A. Yes.

Q. -- of about 1,400?

Now, let me ask you, you had some discussion with Chairman Davis about the -- your design goal of your study to be -- and correct me if I'm paraphrasing this incorrectly -- the design goal for it to be at least a 90 percent confidence level and a plus or minus 10 percent accuracy level; is that correct?

A. That would be for the load research for the classes that are estimated.

Q. Okay.

A. There are some classes that are census, so there is no variability there.

Q. Are there any classes other than large power that are census?

A. All of the customers served at primary, we collect the data on all of them.

Q. Okay.

A. In our study, we broke them out as separate groups. As grouped together here, no, they're not, but yeah, there were some significant chunks of load that are census sampled.

Q. Significant chunks of load that are census sampled that are not within the large power class?

A. Yes.

Q. And which class would those be in?

A. That would be the large general service primary and the small general service primary, which frankly, the small general service primary there's just a few of those customers and they don't use much, so they don't count for much.

Q. Okay.

A. There's a couple other cats and dogs -- I'm sorry. That's a phrase we've used within -- in conversations with Staff over the years -- that don't fit into some of these. It's basically the other class where

it's some of the special contract customers, those are metered as well at a census level.

Q. Okay. But for the sampled classes, that's the accuracy level and the confidence level you're trying to achieve for your load research data?

A. Right. And that's specifically the accuracy level targeted for the time of the system peak.

Q. Okay. Now, just hypothetically, let me ask you sort of a base load question. If you were to be compensated for your work at Aquila based on your worth and your payroll supervisor said, well, I think I can determine your worth with about a 90 percent confidence level within plus or minus 10 percent, would you say that's good enough to calculate your salary?

A. There have been times I wish they could have been that accurate, yes, over the years, but that's I suppose neither here nor there. Yes, I suppose that is, frankly, knowing what I know about how salaries are set and how HR does this whole gig, frankly, I might be pleased to see that kind of accuracy.

Q. Let me ask you this other question, then. Say you need your appendix out. The surgeon says, I can make the incision and I think I can probably get within about an inch of your appendix 90 percent of the time, plus or minus 10 percent. Do you think that's good

enough?

A. It depends on what he was charging, and that's the issue why you do this. A surgeon who could get plus or minus 10 percent 90 percent of the time I'm hoping wouldn't charge very much. And that's the issue with load research is that the more accurate you want to be, the more it costs. And the decision was made at the federal level. I mean, we are responding to the law, PURPA, the Public Utilities Regulatory Policy Act of 1978, which was then in turn enacted by the Missouri Legislature, as I recall, or at least implemented in Missouri rules, that said --

Q. Well, my point is --

A. -- this is what you go for.

Q. -- this is not really a very accurate way of determining how to set rates. I mean, these have real consequences to real people, and in other contexts one would not think that a 90 percent confidence level with a 10 percent plus or minus range is terribly accurate. There are contexts in which you would say that's not good enough.

A. Now, I wouldn't want to be on a plane that only landed safely 90 percent of the time. But, no, I think this is an excellent process and it is -- I mean, the issue is not that it's not accurate. It's imprecise.

Q. I'm sorry. I don't have a question pending right now.

A. I'm sorry. Carry on.

Q. I think you just discussed with counsel for the Staff that there was a class cost of service case that you referred to as the '93 case?

A. Yes.

Q. And you don't recall whether that case was ultimately tried and resolved on the basis of a Report and Order issued by the Commission or on the basis of a settlement?

A. I believe there was a Report and Order. I don't know which parts of it were settled. I don't know which parts of it ended up going for hearing.

Q. But at any rate, the results were set on the basis of a Commission order, which by law is presumed to be just and reasonable rates; is that correct?

A. I believe so. That's a legal question.

Q. Okay. Now, you've said that at least since that time -- and you may have said it for a longer period of time -- Aquila's load shapes, the MPS's load shapes at least, and you said St. Joe load shapes are similar, haven't changed significantly since then; is that correct?

A. The residential space heating class has changed in relative proportion to the others, but I don't

believe the shapes themselves have changed dramatically. I don't have that information in front of me. I don't know, but my impression is they haven't changed dramatically, no.

Q. So since the Commission set -- last examined the class cost of service for MPS, and presumably for St. Joe as well, load shapes have not changed significantly; is that correct?

A. I do not believe so.

Q. Okay.

A. Other than the caveat I gave about residential space heating.

Q. Right. And I think the way you said that the shape of the load hasn't changed significantly, but the number of people on that -- in that class has changed; is that correct?

A. Right. Which will impact obviously the overall system load shape.

Q. Right. Okay. How many people are now in the residential space heating class?

A. I don't recall that just now.

Q. Just roughly, you know, proportion from residential general to residential space heat, can you give us a rough idea of the scale?

A. I believe Mr. Gray would know that. I

could look it up. I'm thinking it's like four to one.

Q. Okay.

A. Roughly 200,000 to about 50,000, but I'm really hedging on that.

Q. And would it be similar on the L&P system between residential general use and residential heat?

A. It seems to me St. Joe's space heating is relatively further behind, so it would be a greater ratio. I know their rate of growth is like 5 or 6 percent, maybe as high as -- I mean at MPS, it was running as high as 8 to 10 percent and I think it still is, growth in that class, compared to the non-space heating which is running zero to 1 percent. As far as absolute this number right now or what that number would be for L&P, I don't recall.

MR. MILLS: That's all the questions I have. Thank you.

JUDGE THOMPSON: Thank you, Mr. Mills. Redirect?

MR. SWEARENGEN: Just a few, your Honor.

REDIRECT EXAMINATION BY MR. SWEARENGEN:

Q. Mr. Tracy, this morning Commissioner Gaw asked you a question about the load shapes in your Schedule 2, I believe, to your rebuttal testimony. Do you recall that question?

A. Yes, sir, I do.

Q. And in response to that, you went into some detail describing that schedule; is that correct?

A. Yes, sir, I did.

Q. And then later on Commissioner Appling asked you about Aquila's average and excess 3 CP method of demand allocation that you talk about in your direct testimony. Do you recall that question?

A. Yes, sir, I do.

Q. What is the relationship between the load shape curves as set out in your rebuttal testimony to the allocation method that the company is supporting in this case?

A. That's -- the fundamental joining of the allocation to the whole cost of service is that the allocation reflects the reality of the load shape that Missouri Public Service and Light & Power have to actually serve, and so the CP A&E allocator best reflects that unique load shape.

Q. Okay. Thank you. You also had, I think, some questions from Chairman Davis about conservation issues. Do you recall those?

A. Yes, I do.

Q. I think he asked you what could the Commission do in this case to promote conservation, and just generally speaking, your answer was adopt a cost of

service study, the results of the cost of service study that Aquila is supporting in this case. Do you recall that?

A. Yes, sir.

Q. Can you tell the Commission how does conservation relate to cost of service?

A. The cost of service best reflects the -- it best matches the costs that the company is incurring to the revenues that the company is collecting, and to the extent those are in accord, as I believe Mr. Conrad talked about in his opening remarks, that to the extent they're in accord, then the customers are receiving the information they need about using or not using our service.

To that extent, they are receiving the proper price signals to give them that information about how to conserve and how much to conserve.

Q. Let me ask you this question. To your knowledge, are conservation issues frequently dealt with in the context of a revenue requirements case such as the pending Aquila electric rate case?

A. That has been my experience is that typically those sorts of things occur. I believe the DNR talked about that, the City of Kansas City, both of them expressed that their main concern with conservation issues

was in the context of the revenue case.

Q. But notwithstanding that, if the Commission was interested in doing something in this cost of service case for promoting conservation, what you just said previously would be the way they could do that; that is, adopt a cost of service methodology and implement it that allows the recovery from those cost causers of the cost; is that a fair statement?

A. Yes, it is. If you want to make policy statements about conservation, you have to first start from cost of service. And ultimately, in my opinion, that's where you stop as well, until you start making some decisions about, you know, why should we take money from Peter to pay Paul.

Q. Also, I think it was in response to a question from Commissioner Gaw you used the term economically efficient rate. Do you recall that? Do you recall using that term, economically efficient rate?

A. Yes, I do remember saying economic efficient.

Q. What did you mean by that? How do you define those terms?

A. The economically efficient rate I believe is determined by the cost of service study, and ultimately I'm going to advocate that our cost of service study best

reflects the economically efficient rate, the rate that says, here's the price signal that tells you how much you should use and what that costs to the company, and ultimately to society, for you to use that, and so that's sending that economically efficient signal.

Q. I think it was in that same discussion with Commissioner Gaw that you made the statement that it ends up costing everybody more if rates are not based on cost of service. What did you mean by that?

A. To the extent that your rates are not based on cost of service, then some customers, and typically you look at this in terms of classes, some classes are going to be paying too little and so will use more of the service, in this case energy, than is economically justified. And to balance that, other customers will have to pay more for energy, and so will use less energy than is economically justified.

To the extent that you have that inefficiency built into rates, all of society then is penalized to the extent that you've got this built-in inefficiency. To the extent that everybody pays what it costs, then everybody's behaving in the most efficient manner, to the extent that you believe that consumers are rational.

Q. Now, shifting over for a minute to the

topic of rate structures, I think you testified earlier this morning that in its direct testimony the company did propose some rate structure changes; is that correct?

A. Yes, sir.

Q. And to your knowledge, did any party respond to those proposals in rebuttal testimony?

A. No, sir, I don't recall any responses to our rate structure changes in rebuttal testimony.

Q. When was the first time you became aware that any party to this case had any issues with your rate structure proposals?

A. That would have been in surrebuttal testimony, sir.

Q. And who was that filed by, do you recall, what party?

A. That was filed by Staff Witness -- Staff Witness Janice Pyatte's testimony primarily.

MR. SWEARENGEN: Could I have an exhibit marked, please?

JUDGE THOMPSON: You may. Okay. This will be Exhibit No. 26.

(EXHIBIT NO. 26 WAS MARKED FOR IDENTIFICATION BY THE REPORTER.)

JUDGE THOMPSON: What shall we title this, Mr. Swearengen?

MR. SWEARENGEN: We can call this, your Honor, Data Request in SIEUA and AGP to Missouri Public Service Commission Staff, and it's item No. 12. I think that will identify it.

JUDGE THOMPSON: Thank you. Very well.

BY MR. SWEARENGEN:

Q. Mr. Tracy, you have in front of you what has been marked as Exhibit No. -- Exhibit No. 26.

A. I was going to say, you took my copy.

Q. I'm going to hand it to you and ask you to tell the Commission what it is.

A. Yes, sir. The exhibit is a Data Request sent from the Sedalia group, if I can call them that instead of -- sent by them to the Missouri Public Service Commission Staff. It's dated September 27th. It asks the Staff to please identify all commissions of which you are aware that utilize the generation allocation method that Staff has proposed in this case. Provide a copy or citation to any case approving the use of such method.

The Staff's response, Staff is unaware of any other commission that utilizes the generation allocation method except for the MoPSC.

Q. And I take it that you were aware of that Staff response to that Data Request when you testified earlier about your understanding that there weren't any

other commissions in the country that were using that allocation method; is that right?

A. That's correct.

Q. One last question. When you were testifying this morning about the load shape for the lighting class, it's been suggested to me that you may have said that the excess piece was added to capture the lighting load, when instead it should have been the average?

A. If I said that, I did reverse that. The average and excess, it's the average piece that would capture the value of the lighting load.

MR. SWEARENGEN: All right. Thank you. That's all I have. Thank you.

JUDGE THOMPSON: Thank you, Mr. Swearengen. You are excused, Mr. Tracy.

THE WITNESS: Thank you, sir. Oh, and I've promised to provide or try to provide the light and power drafts and the energy class for the last ten years to the extent that I can get that. I don't believe I have any other promises.

JUDGE THOMPSON: Your lawyer will be in charge of making sure that you fulfill your promises.

MR. CONRAD: Your Honor, just for the record, did you want to reserve exhibits for those or --

JUDGE THOMPSON: How soon are we going to get them? Will we get them while we're still in hearing?

MR. SWEARENGEN: I don't know the answer to that.

THE WITNESS: I believe we can get them by tomorrow morning. That will be my attempt.

JUDGE THOMPSON: In that case, they can be presented during the hearing and we can assign numbers at that time. Thank you.

MR. SWEARENGEN: And I would move the admission of Exhibit No. 26, please.

JUDGE THOMPSON: Any objections to the receipt of Exhibit No. 26?

MR. WILLIAMS: No objection.

JUDGE THOMPSON: Hearing none, the same is received and made a part of the record of this proceeding.

(EXHIBIT NO. 26 WAS RECEIVED INTO EVIDENCE.)

JUDGE THOMPSON: David L. Stowe. State your name, please.

MR. STOWE: David L. Stowe.

JUDGE THOMPSON: Could you spell your last name?

MR. STOWE: S-t-o-w-e.

(Witness sworn.)

JUDGE THOMPSON: Please take your seat. You may inquire.

DAVID L. STOWE testified as follows:

DIRECT EXAMINATION BY MS. WHEELER:

Q. Good afternoon, Mr. Stowe.

A. Good afternoon.

Q. Are you the same David Stowe that's caused to be prepared for purpose of this proceeding certain direct, rebuttal and surrebuttal testimony in question and answer form?

A. Yes, I am.

Q. And is it further your understanding that those have been marked as Exhibits 4, 5, 6 and 7 respectively, 7 referencing the highly confidential Schedules DLS-3 through 10?

A. Yes.

Q. And with respect to the testimony which I've just referenced, do you have any changes or corrections to that testimony at this time?

A. I have one change to make to surrebuttal Schedule DLS-1. In the column depicting Staff's results, I believe it was on the LGS or LPS customers I had a positive number in the $7.4 million range. It should have been a negative number.

Q. Is that the only correction you have to

your testimony, sir?

A. Yes.

Q. If I asked you the same questions that are contained today, would your answers today under oath as corrected be substantially the same?

A. Yes, they would.

Q. Are those answers true and correct to the best of your knowledge, information and belief?

A. Yes, they are.

MS. WHEELER: I'd like to tender the witness for cross-examination.

JUDGE THOMPSON: Thank you. Okay. Let's see. Cross-examination, again, Federal Executive Agencies?

CROSS-EXAMINATION BY MR. PAULSON:

Q. Good afternoon. How are you today?

A. Very good, thank you.

Q. I just have some very short questions about income tax. How did you allocate income taxes?

A. I believe I allocated based on a meeting with all the parties. They should have been allocated on rate base. I believe I made those changes in both the cost of service studies. If there -- I now understand that there's a possibility that may not have been made in one cost of service study. However, I do not have the

data before me to make that correction.

Q. Will it be your intention to make that change?

A. Yes, if I find out they are not allocated based on rate base, I'll make that correction.

MR. PAULSON: Okay. Thank you. I have no further questions.

JUDGE THOMPSON: Thank you, Major Paulson. Mr. Conrad?

MR. CONRAD: If I might, your Honor.

CROSS-EXAMINATION BY MR. CONRAD:

Q. Mr. Stowe, if you know, was that -- did Mr. Brubaker allocate those on the basis of rate base?

A. I believe he did.

MR. CONRAD: Thank you. That's all.

JUDGE THOMPSON: Thank you, Mr. Conrad. Mr. Williams?

MR. WILLIAMS: No questions.

JUDGE THOMPSON: Mr. Mills?

MR. MILLS: Thank you. I have a few.

CROSS-EXAMINATION BY MR. MILLS:

Q. Good afternoon, Mr. Stowe.

A. Good afternoon.

Q. Let me just run through a few areas with you. Can you tell me, what are the engineering

considerations in choosing the height of an electric pole?

A. The National Electric Safety Code stipulates the height of electric poles based on a number of factors. One of them is the voltage. One of them is the use of the ground beneath the pole. I do not recall right now all the different engineering considerations, but those are the two primary ones, I believe.

Q. What are the engineering considerations in choosing the type of wood of an electric pole?

A. Obviously there's going to be a lot of structural analysis of weight, ice loading, wind loading. We try to make multiple use of poles that are in areas. In other words, we want to put a -- typically put two parallel lines of poles to carry both primary and secondary, and so there would be some weight considerations from the number of circuits that you're carrying.

Q. And in designing a distribution system, are geography, the placement and length of roadways and local zoning significant considerations?

A. I would think so, yes.

Q. How do these affect how many poles are placed?

A. I don't know how that's going to affect them, whether it would require more poles, taller height

or fewer poles in order to get around something. I don't know.

Q. But in either event, it could have a significant impact?

A. It would.

Q. And would your answer be the same for the length of conductors that are placed?

A. I believe so, yeah.

Q. So that the geography, placement and length of roadways and local zoning would have a significant impact on the length of conductors that are ultimately deployed?

A. Yeah, that would be one of the factors.

Q. Okay. In designing a distribution system, is future growth and demand a significant consideration?

A. I believe it's another consideration. I don't know how to qualify whether it's a significant -- more significant than others. I didn't do the distribution design, but I believe that it would be a consideration.

Q. Well, I didn't really ask you to tell me if it was more significant than anything else, but would it be a significant consideration?

A. I believe so.

Q. Okay. Is that because it's more economical

to initially place facilities with consideration of future demand than to frequently have to go back in and add capacity?

A. Yes.

Q. Is this true for the capacity of overhead conductors?

A. Yes.

Q. For underground conductors?

A. Yes.

Q. For underground conduit?

A. I would think so.

Q. How about for the types of transformers placed?

A. Maybe not so much there. But if I understand what you're saying, is once you put a conductor in the air, it may need to carry the capacity for a number of customers. However, you wouldn't have to put a transformer to meet those customers until the customers exist, so you could always bring the transformer in when the customer is there. So you wouldn't have to build additional capacity in the transformer the same as you might for things that are buried in the ground or hung up on a hole.

Q. Just looking at the residential customers, how many customers are typically served off a transformer?

A. I think our construction standards try to match about eight.

Q. Okay. And do you use just one particular transformer for all residential customers, one particular size and type?

A. No, we don't. We have, I think, maybe three or four primary sizes.

Q. And what number of customers do each of those sizes serve?

A. Again, the only construct standard I'm aware of is kind of a rule of thumb that we would like to construct -- estimate that eight customers would be built off of one transformer.

Q. Okay. I thought you just said there were three or four different size transformers?

A. Yes.

Q. Any one of those sizes is designed to serve eight customers?

A. These are rules of thumb, and my understanding is that the construction standards say we try to match a customer to a transformer. I do not believe anything there says there's a specification for size of transformer that's in place.

Now, obviously if you had a single customer off of a primary system that you had reached, you would

put in a transformer, one of these three sizes, probably one of the smaller ones, that would serve that single customer.

Q. But it's your testimony that that same transformer could serve eight customers?

A. I believe so.

Q. So -- and you just -- I think you just sort of hypothesized a situation in which there was a transformer serving one customer. If there were -- to use your example, if there were seven new businesses or homes built adjacent to that one customer, is it possible that all seven of those new customers could be connected to that existing transformer?

A. I suppose it's possible. I would suspect that as those new homes came into that area, there would be some consideration by the engineer to look at whether the transformer needs to be upgraded. If you try to run secondary lines too far, you run into some -- you have to get bigger and bigger wires the farther you carry it, so you may want to continue the primary system and put a second transformer in. But there would be some engineering analysis to say whether this transformer can handle that load.

Q. Let's assume that in this instance, you know, when Aquila put in that first transformer it knew

that the area was platted to serve -- to have eight homes right in that area. They're all close together. In that instance it would be quite possible to serve those additional seven homes off the original transformer; is that correct?

A. Yeah. I think in that situation if they had a reasonable idea when the other seven homes or eight homes were going to be built, they might want to go out there and put a transformer that could handle that load.

Q. And would you generally agree that higher customer density creates lower cost per customer?

A. From an engineering design perspective, you mean, for how we're going to design the system?

Q. Yes.

A. Yeah. I think there's some economy of scale there.

Q. Where line extensions are necessary, don't your tariffs provide that customers contribute toward the construction costs associated with extending the distribution facilities under some circumstances?

A. Yes.

Q. I'm not sure exactly what Aquila is -- I'm not sure if MPS and L&P are the same, but there's a certain length that's generally free to the customer, and then over that length the customer pays; is that correct?

A. I'm not exactly sure what the -- what the exact line extension policy is. I believe there is something in place like that, but I don't know the details at all.

Q. Did the FERC Accounts 364 through 369 allocated in your class cost of service study reflect that customers pay for certain line extensions?

A. I don't believe so, but I don't know that for sure. I don't think they did.

Q. Okay. Now, in terms of poles, conductors and non-service-related facilities placed in public rights of way, are those owned by Aquila?

A. Can you repeat the question?

Q. Let me rephrase it. Maybe it will be easier. When you place distribution facilities in public rights of way, you continue to own those facilities; is that correct?

A. I believe that's right.

Q. Now, do the number of poles used in your distribution study include poles placed in association with line extensions?

A. I'll try to answer that as best I can, and I'd like to make a lot of caveats, but I think we've done that already. My knowledge is fairly weak on the policy. My understanding was that the line extension policy, if a

customer paid additional cost for an extension of line, they own that, and those poles and conductors don't make their way into Account 364. We don't record the cost of those poles because we've already collected for that. So I don't believe that we show that as a company-owned pole.

Q. Okay. So in that situation, if you built a distribution extension to serve one customer, then that can only be used to serve that one customer even if there's another property developed beyond that?

A. No, that wasn't what I was trying to say. What I meant to say is, again, I don't know what the exact rules for the line extension policy are. But what I envision that being is when we're going to tap off of a primary service and we are going to run a -- say put a transformer on the same pole as the primary, have a tap that comes down to the transformer and then secondary lines that may be run back down the primary poles and come back to get the customer, there's a certain distance that we give the customer for free.

In the scenario I just said, where we're using the primary poles, probably in that case there would not be -- we wouldn't consider the additional cost in our line extension policy. In other words, we wouldn't make the customer pay for additional cost. It would be in situations where we might have to extend two or three

poles to go back away from the road and then catch the customer there, that customer might be responsible for the costs of those additional poles.

And I'm -- that's what I'm saying. I'm not sure those additional poles going back down his drive, for instance, to get to that customer, I don't believe that would show up in our records. I'm not 100 percent sure of that, but I don't think that would show up.

Q. Okay.

A. Now, a similar example would be, a lot of customers like their service buried, and so they might have the contractor at the customer's expense put the conduit underground and they would put some of the pole line in, a pull, a nylon rope that we attach our conductor to it, and they would buy that conductor. And so that would be -- certainly the first 100 feet, first 150 feet might be free. Anything beyond that would be at the customer's expense.

Q. So you're saying that, to the best of your knowledge, your distribution study doesn't include any poles placed in association with line extensions, but those are accounted for separately and they're essentially still owned by the customers who are paying for the line extensions?

A. I'm saying I don't know --

Q. Okay.

A. -- if that's the case or not.

Q. I thought that's the way you described to me your understanding.

A. Maybe I should emphasize caveats.

Q. Okay.

A. I don't know.

Q. Okay. So if I were to ask you similar questions about underground or overhead conductors and conduit, you'd have the same answer?

A. I think if the emphasis of the question is to really get a better understanding of the line extension policy, I wouldn't be the proper witness for that. If we get closer in that discussion, I --

Q. It's not really a question of understanding the line extension policy per se. It's a question of how that line policy -- line extension policy plays into where these fall in your distribution study.

A. Yeah, I believe I understood that. Again, I don't know. I can tell you this, that the line -- or the distribution study did attempt to consider every pole in Account 364, every conductor, whether it was overhead or buried, in those different accounts. So I considered everything in those accounts, but what's included in those accounts with respect to line extension involved, I don't

know.

Q. Do you know if Mr. Gray will know that?

A. No, I don't know that either.

Q. Okay. I just wondered if I could take it up with him when he comes on next.

Okay. And still staying with your distribution study for a few more questions, what's the source of the replacement cost dollars used in that study?

A. Ultimately it's going to be the plant account cost. In the process of doing the zero intercept study -- is that specifically the study you're referring to? When you perform the zero intercept study, it's a statistical analysis that's done, and the zero intercept refers to a point where a line hits the Y axis on a graph. There is no dollar amount associated with that point. It's a percentage point.

I take that percentage number and then multiply it by the cost that we have. In this case, it was plant costs. Okay. So if there was, for instance, as an example here, if the Y intersect, the zero intercept was 50 percent, and that's a huge number, I don't think we had anything close to this, and you were multiplying that by an account with $100 in it, the amount would be -- the replacement cost would be $100. That's what you're asking, and the Y intercept component would be the $50.

Q. Okay. Now, let me -- hang on just one second, please.

MR. MILLS: May I approach the witness?

JUDGE THOMPSON: You may.

BY MR. MILLS:

Q. Mr. Stowe, I'm going to show you what's Sheet R-49 from your rules and regs, and it's applicable to both Aquila Networks L&P and Aquila Networks MPS. And Section D of that sheet under 703 general provisions talks about facilities extension. If I could ask you to read that and see if that refreshes your recollection on the facilities extension policy.

A. Yes. It says, facilities extension agreements will be based upon the company's estimated construction costs for providing the facilities necessary to supply the service requested by the applicant. Company shall exercise due diligence with respect to providing the estimate of total cost to the customers. If it is necessary or desirable to obtain private, public and/or government right of ways to furnish service, applicant may, at company's discretion, be required to pay the cost of providing such right of ways. All distribution extensions with the exception of service conduits provided wholly or in part at the expense of an applicant become the property of the company once approved and accepted by

the company.

Q. Okay. Does that refresh your recollection of how the line extension policy works?

A. It tells me more information than I had.

Q. So let me go back and see if maybe we can get a little bit more definitive answer to a couple of these questions. Do you know if the number of poles used in your distribution study include poles placed in association with extensions according to that policy?

A. According to the policy, they should, it looks like.

Q. Okay.

A. I do not know if they do. There's no -- I do not recall in the distribution study as I downloaded all the data whether there was any kind of an indicator whether those poles were part of the line extension or not. I would presume they might be.

Q. And how about for the number of circuit feet of overhead and underground conductors used in your distribution study, would those include those placed in association with that facilities extension policy?

A. Yes, same answer.

Q. How about feet of conduit?

A. Same answer.

Q. Now, I think as you've described this to

me, I think you've already answered this question, but let me ask because it sort of gets at it a little bit different way. Are the replacement cost dollars used in the distribution study discounted to reflect that customers may have paid for certain extensions of the poles and conduit and conductors we just talked about?

A. I don't know.

Q. Because I believe the way you described your zero intercept method, it would not because you would have that plant account and you would simply take the percentage of wherever you intersect. So that would not be taken into account; is that correct?

A. I don't know. Here's why I'm -- I'm not trying to avoid the question at all. In the distribution study, I get a database of, by the time I did all the different accounts, literally millions of line items. The line items were identified as what their account was, whether it was a wood pole or not, whether it was a steel pole, the height, those sort of things. There was also a dollar amount associated with it. There were costs in the account that had no -- or there were line items that had no costs associated with them.

And I did not go through the process because I was getting the data from our current property records. I didn't attempt to cull that. I didn't attempt

to say, well, this doesn't make any sense and throw it out. There was no cost associated with it, so I just basically included it in the study.

Now, when it came down to look at the zero intercept and I wasn't plotting -- I didn't end up plotting every single record on a curve, but the different heights of the poles, so a few poles that were missing, there might have been hundreds, a couple hundred out of the, I would guess, 50 or 60,000 poles we might have out there in L&P's territory. I didn't -- I didn't see or didn't feel like there was much of -- many of those zero cost poles, but there were some. After this discussion, I don't know where they came from.

Q. And you just -- and that last part of your response, you mentioned L&P. Is that only true for L&P that you had some line items with zero cost associated?

A. I did every electrical territory at the same time. I was doing one distribution study after the other as I walked through. I did MPS, L&P, Kansas and Colorado at the same time. So I really -- again, it's been a while since I've done that. I couldn't tell you for sure, but I did see those items pop up.

Q. Okay. Let's move on to a slightly different topic. What do you mean in your testimony by primary distribution?

A. That would be the -- primary distribution would be anything from a community substation or a substation where a transformer steps the voltage down from what we consider transmission or subtransmission, typically anything above 34.56 KV or 34,500 volts, and steps it down to a voltage that is going to be distributed out to the neighborhoods.

We're all familiar with the transformers on the poles behind our homes or the pad-mount transformers on our property. From that point back towards the substation is all primary, typically 12 KV, 13 KV type of thing. In some cases we had like a 4760 volt primary.

Q. So the level of primary voltage is anywhere from 13 KV up to 4700 KV?

A. Well, 13 KV down to 4700 KV.

Q. And what do you mean by secondary distribution?

A. Everything from the transformer off the primary to the customer, with the exception of the last -- the last pole or last connection to the customer is considered a service drop or services.

Q. And what is the level of voltage in that portion of the system?

A. Almost always it's called 120-240, and what that is referring to is the wires themselves. The

conductors themselves carry power at 120 volts, but it carries two lines, and they are -- they're designed in such a way that the voltage from one hot wire, one phase wire to the other is actually 240 volts, and the voltage from each phase to the ground is 120.

Q. And why is primary voltage higher than secondary voltage?

A. Carry more power. Actually, it carries more power for a larger community. Typically -- well, always power is the product of voltage and current, electrical current. If you increase the voltage, you'll decrease the current. And so the primary voltage is stepped up above the secondary so that it can carry more current. Let me say that again. It can carry more power. The current goes down.

Q. Does the cost of a transformer vary with the reduction in voltage depending on whether a home is served from primary or secondary?

A. If the home is served -- a home is served from primary?

Q. Well, probably not a home. Any customer.

A. If a customer is served from primary, there is not a need for a transformer, at least on our side. We typically would -- the customer would have their own transformer, and so from our perspective, we don't put a

transformer on.

Q. Well, let me go back. You probably don't have any homes served at primary voltage?

A. No.

Q. Okay. Let me go through some of your production facilities and specifically ask you which ones are primarily for base load requirements, and I'll just sort of run through them all. Sibley 1 through 3?

A. I think those -- well, let me back up here. In general, I would say that our coal plants would be considered base load units.

Q. Okay. And all three Sibley units are coal?

A. Okay.

Q. Right?

A. You're asking the wrong guy for this. I'm a cost of service engineer, and I have electrical engineering background.

Q. Okay.

A. But I don't know. I couldn't tell you all the fuels that we're using. I know some of them if they were combined cycle they are using probably natural gas. Although they do have oil-burning combined cycles out there, I don't know if we have them.

Q. So would it do me any good to run through the rest of the plants? I don't want to spend half an

hour doing this to have you say, I don't know.

A. I can't imagine it doing me any good.

Q. Let me rephrase that. Would you be able to answer about any of the other plants?

A. Probably not.

Q. Okay. Okay. Let me talk about your demand allocator. In developing that demand allocator, you calculated both an average and excess allocator and an average and peak allocator. Did you use the average and peak allocator in your class cost of service study?

A. I want to be correct. I didn't calculate those allocators at all. That was Mr. Tracy.

Q. Okay.

A. We used -- a number of allocators were given to me. For our original cost of service, we used the average and excess 3 CP and we stuck with that through all of our filings.

Q. Okay.

A. However, in the process, some of the other parties submitted their allocators, and we did -- we did -- as a way of verification and kind of double checking, we did plug their allocators in to our model to get results. I don't have those results with me.

Q. Do you remember them at all? For example, if I was --

A. In general terms, yeah.

Q. -- if I was to suggest to you that had you used the average and peak instead of the average and excess, it would have reduced the allocation production costs to residential classes by about 4 1/2 percent, is that the right number?

A. Are you -- you're talking about your average and peak the way you guys calculated it? We did -- there's a couple things about that. Again, remember, we had different classes than what the OPC had.

Q. Right.

A. We went through the process of calculating the average and peak for our classes, and when we implemented that, I do not remember the exact numbers, but I do remember in every case the end results proved that the real issue here was the production transmission allocator. In other words, if we took Staff's allocators, calculated the way they did, but calculated them for our classes, we pretty much dropped into the ballpark of results that they had.

And the reason we didn't do that for our cost of service, of course, is what all the issue is about. We don't think those are proper allocators. We think those are energy allocators, not demand allocators.

Q. And I'm not sure if you answered this as

you went on, but do you recall the difference in percentage? Do you recall that it was about 4.5 percent?

A. No, not to that level of detail. If that ends up being the difference, I think that we dropped -- I think -- I know it in dollar numbers or dollar amounts. I think we dropped a difference between our study and Staff's study, and I realize that's not who you represent.

Q. Right. And that's not the average and peaks I was also asking about.

A. Right. Well, there was a filing with an average and peak calculation, I believe, that I went through the process. I mean, there was a spreadsheet that had allocators that I went through. It dropped about 7.5 million, I think. I believe that's right.

Q. For the residential class?

A. Yes.

Q. For production costs?

A. The end result, the net result. The sheet that we passed around I think in Exhibit 25, we ate up all the difference between the two parties.

Q. Okay. Because I was going to ask you about production costs and then ask you about distribution costs as well. You're saying that all of them combined came up to about 7.5 million for the residential classes?

A. Well, the only time we changed was the

allocator. We plugged in the average and peak instead of our average and excess CP, and we did it to verify that that was the issue. Okay.

Q. But you did it for both production costs and distribution costs?

A. No. We don't use that demand allocator for distribution. We use a different demand allocator for distribution.

Q. Which one did you use for distribution costs?

A. Again, I don't want to make it sound like I'm hedging. I used two of them for distribution, and here's why we did it. When you start out at the generator and you look out over the customer base, electrically you're seeing all the different customers, the whole system. So we use an allocator that looks at system peak.

Okay. As you get closer to the customer to the primary system and when you pass through those -- the large transformers that are in the outdoor substations that you see and you're on the primary system, you're really looking at classes of customers, a whole residential area or industrial park, something like that. So we use for primary distribution classic peak, and when you get to the secondary distribution costs, we're using customer peak, and those are mathematically numerically

different numbers as you go closer to the customer.

Q. Okay. Now, going back to the minimum intercept study that you did, you used replacement cost instead of book costs; is that correct?

A. Yes. Yes.

Q. Does the NARUC manual recommend book costs?

A. I think they recommended -- actually, I think they said they used replacement costs or embedded costs. Was it --

Q. Book costs, embedded costs.

A. Yeah, I think I don't -- subject to check, I don't -- actually don't know what the NARUC manual recommended right now. You kind of caught me on that.

Q. Okay.

A. What was the question again?

Q. Does the NARUC manual recommend book cost as opposed to replacement costs for the minimum intercept method?

A. I don't know.

Q. Would it refresh your recollection if I were to hand you the NARUC manual?

A. It sure would.

MR. MILLS: May I approach the witness?

JUDGE THOMPSON: You may.

CHAIRMAN DAVIS: Judge, would it be

appropriate to take up a collection to purchase a new NARUC manual for the Office of Public Counsel?

MR. MILLS: While I was going through this morning it occurred to me that we could actually just run it through our spiral binding machine and get it held back together. I think in our next break, that's what I'll do.

CHAIRMAN DAVIS: We appreciate your thriftiness.

MR. MILLS: You bet.

THE WITNESS: It says here the technique is to relate installed cost to current carrying capacity or demand reading. So I think that would be the book cost.

BY MR. MILLS:

Q. Okay. Now, when you determine the zero intercept for single phase line transformers, do you use transformers of sizes larger than 50 KVA?

A. Yes.

Q. Does the NARUC manual recommend using sizes up to and including 50 KVA?

A. Yeah. When they did their study, that's how they did that, yes.

MR. MILLS: That's all the questions I have. Thank you.

JUDGE THOMPSON: Thank you, Mr. Mills. Questions from the Bench, Chairman Davis?

CHAIRMAN DAVIS: I'm going to pass right now, Judge.

JUDGE THOMPSON: Commissioner Appling?

QUESTIONS BY COMMISSIONER APPLING:

Q. David, I've got two or three short questions that hopefully we can get short answers from you.

A. Okay.

Q. The first one is, what are line losses?

A. Whenever electricity flows in the wire, there are some losses due to heat. Electricity doesn't flow perfectly, and there's some -- what's going on atomically is the electrons are bumping into things and bumping into each other. Certainly you've heard the phrase superconductivity, what a superconductor is. It's a very special type of material that doesn't impede electrical flow at all, and so there is very little loss because the electricity can move very smoothly through.

But in the real world, the way we have our lines installed, there are resistive -- they're called resistive losses on the wires. When electricity goes into a transformer to try to either step the voltage from what it was generated at to what it's going to be transmitted at, or reversing that from transmission to primary and secondary distribution, there are losses involved in that

process.

And so the total line loss is an attempt to determine the sum of all those component losses and the wires and the transformers. Typically over the whole system for a system like Aquila's, we are looking at loss of somewhere around 6 percent to 9 percent, depending on whether we're talking about average conditions or whether we're talking about peak conditions, the highest demand times.

Q. How do the -- how does this affect the cost of service?

A. Well, obviously it increases what we have to -- I mean, we have to generate more kilowatts or kilowatt hours in order to get what the customer needs there because of these losses, so it costs us a little bit more to overcome the losses.

Q. I suppose this question I may already have the answer to it, but do they have different effects on different customer classes?

A. Yes, they do. And primarily because as you move the two classes that we have that affect losses -- that losses affect are the primary customers and the secondary customers, okay. So if I took everybody connected to the primary system, they aren't going to see the losses that normally happen in the secondary

transformer and the secondary lines. So primary customers see less of a loss typically than secondary customers.

Q. Couple more questions here. What is the zero intercept study? What did you mean when you were talking about that?

A. It has to do with the classification of the cost of service study, and the cost of service study we've talked about in a lot of different terms, and it can seem, even to people that use it all the time, really complex. And so there's ways to try to say, let's make this simpler so we can put it in a context we can -- it's just easier to explain.

Cost of service studies look at customers that are subdivided by classes, and it looks at costs that are subdivided by account. And the question is, how do we divvy up and allocate these costs to all the different classes? Some costs are clearly incurred in order to perform some sort of demand function, a turbine, a generator or in fact a whole generator, a power plant, is -- we're familiar with saying this power plant's going to be 310 megawatts. Okay. It has to do with the size of the turbine, the size of the generator, the size of the boiler, all those things.

And so because of that, we take -- we like to take the fixed costs of those items and we like to

allocate them to the customer based on some sort of demand allocation. When you look at the cost of meters on the other end of the scale, now we've gone all the way down to the customer meter, clearly the meters are on every single property and there is really a one-to-one relationship between meters and the number of customers. And we say, well, that's a customer related cost, so we allocate it based on the total cost based on the number of customers in each class.

The reason I took the end points is because it's when we get in the middle into the distribution system where there are certain costs that aren't clearly customer related and they aren't clearly demand related. We know intuitively that there is some size of a system, electrical system that is necessary to even serve one customer.

If a substation or if a subdivision went in, a developer called us and he said, hey, I'm going to have 50 lots, I've got two homes going up right now, there would be some cost that we need to spend money getting primary to that subdivision and start putting the -- even some of the secondary lines out there. Really not related to number of customers and really not related to the demand. Okay. It's really kind of a minimum size system that is necessary to get power to the customers at all.

The question becomes, then, how do we figure that out mathematically? What tools do we have that can help us look at the distribution costs and system and say, how do we divvy up those costs to the proper portion going to the demand component? And for residential customers the way that works is anything you throw in demand related gets recovered from the customer class in their demand charge.

Now, if it's a residential customer, they don't get a demand charge, so those costs are just rolled into the energy charge, and any cost that is customer related, like the meters or that basic system that's necessary to even serve one customer, that's not clearly demand related, that -- those costs are recovered in the customer charge.

What the zero intercept study does is it's an analytical method to take those costs, begin to look at it component by component, and have some sort of a reasonable way to extract the components, the demand component from the customer component. That's what the whole point of that study is.

Now, if we had time, I could explain the details of that, but that is what the zero intercept method attempts to do.

Q. I can see the audience out there, they are

going to go to sleep on both of us here. So I'm going to ask one more question, and then I'll end it. Is it a common analytical tool that you use?

A. Yeah. And I reflected that in -- I believe it was my surrebuttal there's -- a number of commissions around the country have accepted that. Epree (phonetic spelling) did a survey or did some research just the last couple of years, I believe it was 2003, and they related a number of states that accept the minimum system or zero intercept. Those are two names for slightly different techniques, but after the same component, demand and customer component.

Q. Did anyone else in this case incorporate the use of the line loss?

A. The line loss? Everybody did.

COMMISSIONER APPLING: Okay. Good enough. Thank you very much, sir.

JUDGE THOMPSON: Thank you, Commissioner. Any other questions from the Bench?

(No response.)

JUDGE THOMPSON: Recross based on questions from the Bench, Major?

MR. PAULSON: No questions, your Honor.

JUDGE THOMPSON: Mr. Conrad?

MR. CONRAD: No questions, your Honor.

JUDGE THOMPSON: Mr. Williams?

MR. WILLIAMS: No questions.

JUDGE THOMPSON: Mr. Mills?

MR. MILLS: Just briefly.

RECROSS-EXAMINATION BY MR. MILLS:

Q. Mr. Stowe, you were just asked a couple questions about the zero intercept method?

A. Yes.

Q. Isn't it really just an analytical construct that attempts to quantify the cost of a hypothetical system that you would build if you had no customers and would never have any customers?

A. No.

Q. That's not -- it's not -- it's not designed to quantify the cost of a system up to the point where you actually start adding customers on to it?

A. No.

Q. Okay. Well, explain to me again how it works then.

A. We know that there is a minimum cost to serve only one customer. And what you pointed out to me earlier, there's some economies of scale there. If you know you're going to be serving a subdivision, it makes sense to build a system that is able to handle more customers. But you couldn't tell the single customer who

wants service, I'm not going to provide you service until you get some friends to go along with you.

We're obligated to serve that one customer, and so we're obligated to install poles and hang conductors and place insulators and put transformers and then use capacitors in order to keep reliability and voltage levels proper. All of those costs are necessary even to serve one customer.

The question becomes, how then -- so there's clearly a component of this that is necessary if you had a single customer. There's a cost associated with it. There is some customer cost.

Q. Okay.

A. And there is some demand cost, so we use these analytical tools to try to delve into those -- the joint costs and pare them out and say, which portion should be customer and which portion should be demand related?

Q. Okay. It's called the zero intercept method?

A. Right.

Q. What is the zero?

A. The zero is the X axis. If you remember back in math, you've got the horizontal axis is the X.

Q. And what is on the horizontal axis, what

units?

A. Price, dollars. Typically it's a dollar per unit, and what we'll have is -- I'm sorry. I said that wrong. If you're looking at conductors, it's typically diameter of the conductor on the X axis. So the higher the diameter of the conductor, the greatest the cost. The Y axis is typically the cost.

So as you place some points out into that first quadrant on the upper right-hand quadrant, then you find a curve, some sort of a line or actual curve that closest fits that -- those lines, and as it slopes down, you extrapolate it back to the Y axis.

Q. Okay. So just to stay with your example of a conduct, or if you're using a zero intercept method for conductors, you would say -- and I'm just going to make up arbitrary units just for simplicity. You plot the cost of a one-inch conductor, a two-inch conductor, four-inch conductor, ten-inch conductor?

A. Right.

Q. Then you extend that back to zero?

A. Uh-huh.

Q. Okay. How many customers can you serve with a zero-inch conductor?

A. Again, it's not -- we're not doing that. If you had a zero-inch conductor? Microwave, for

instance.

Q. Isn't that the point that you're plotting on the zero intercept method?

A. Huh-uh. No. It's a common misconception, though. I understand where you're coming from. It's commonly believed that -- we call it minimum system, and you've got some non-existent system of zero size that costs something, and that's not what we're getting at. That would be ridiculous.

Q. So you don't actually plot the line back to the zero intercept?

A. We do.

Q. Okay. And what is the relevance of that point?

A. Well, that point tells you that if you were to put -- if you were to go out and buy a conductor at all, the smallest -- if I went to Acme Conductor Store and said I wanted a conduct, I need it zero diameter, they would probably lock me away. So you go in and you say, I need a conductor, and I need to install a primary system. The obvious question is, well, how big?

I'm going to tell them, well, the National Electric Safety Code requires that it's a No. 4 conductor at a minimum to hold up ice, withstand the wind loading. The National Electric Safety Code requires it's a certain

distance off the ground, so I've got to have a pole. I've got to have cross-arms. I've got to have insulators.

Q. Just for simplicity, let's stick with just the conductors for this example.

A. Okay. So I've got a conductor that has to be a No. 4.

Q. Okay.

A. Okay. The zero intercept method will extrapolate -- it will go out there and find conductors of different height -- or different diameters and the costs and then extrapolate it back, and that tells us where it crosses the X axis of the Y axis. It tells us that that is the minimum cost that I can -- I will incur to install any kind of system at all, any basic system. Not any non-existent system, but any minimum size system to serve a single customer.

Q. Let's go on to poles. Do you do a zero intercept method for poles?

A. Yes, we do.

Q. And there on the X axis you're plotting -- this is a little simpler, because you're not plotting diameter, you're plotting number of points?

A. No, we're -- diameter and length of poles.

Q. Okay.

A. We have different -- different diameter,

different classes and different size of poles. And so I did zero intercept on all the different classes, all the different lengths.

Q. Okay. So for any one particular class and length of pole, you're doing a zero intercept method?

A. Yeah. Based on size, based on height.

Q. So for that particular height of pole, your X axis is the number of poles?

A. No. We're -- on the X axis is the height of the pole. So we would have one point that says a 20-foot pole is going to be $100, a 25-foot pole is going to be $160, a 30-foot is going to be $185.

Q. And then when you extrapolate your line back to the zero intercept, how big is that pole?

A. Well, it's -- again, it's not -- we're not talking about a height mechanism. We're talking about an analytical tool that will give us a picture of what costs in the pole category is it going to cost us just to build a minimum-sized system to serve the customer.

Q. I understand what you say the analytical purpose is. I'm trying to ask you if you extrapolate that line back to the zero intercept, if you're plotting height of pole on the X axis, extrapolate that line back to the Y axis, what height pole is that point?

A. That's -- I guess I could make up

something.

Q. Wouldn't it be zero?

A. No. It would have to be the minimum size that the National Electric Safety Code requires. We cannot install a zero height pole.

Q. Well, I know you can't install one, but you can graph one on your zero intercept graph?

A. No. The National Electric Safety Code won't let us lay conductors on the ground, so we have to hold them up 12, 15 feet off the ground. That's the size of the pole. And we don't have 15-foot poles.

Q. Okay. But I'm just asking you what the graph looks like. When you take your graph, you extrapolate it back to the zero point on the Y axis, what height -- if I were just to look at that on the X axis, what would the height be? I'm not asking about what you build and what the electric code asked you. I'm asking what the graph shows.

A. Well, if you assumed that the Y axis is crossing at the X axis, that we drew our vertical line right at the zero point, that would be a zero height. However, you could slide that Y axis anywhere on there you wanted. Okay?

Q. Uh-huh.

A. Now, it would be foolish, I believe, to say

that that Y axis is the cost of a zero height pole. That Y axis isn't at a cost of zero height pole.

Q. Because you moved it out?

A. It's at a minimum. The minimum size pole. And the National Electric Safety Code requires a minimum height, so that requires a minimum-size pole, but I would say that that Y axis is at what the National Electric Safety Code requires.

Q. And that's why --

A. So 15-foot pole maybe.

Q. That's why you use the term minimum system analysis, as opposed to the zero intercept?

A. Well, huh-uh. No.

Q. But the way you've just described it, you would never have a zero intercept, at least in terms of pole height; is that correct?

A. No.

Q. That's not correct?

A. No.

Q. You would draw the graph so that it goes all the way down to a zero height pole?

A. No.

Q. Okay. Then where is your intercept?

A. The intercept on the Y axis?

Q. Yes.

A. It would be safe to say it's at the Y axis. Wherever the Y axis cross, and I don't care where you make that. You can make it wherever you want. It crosses the Y axis. Okay?

Q. Yes.

A. If you want to trace it down to the X axis and say, hey, what's the point, how tall is that pole, if you want to make it a zero height pole, I didn't do that. I wouldn't do that. I would argue we don't buy non-existent poles.

Q. Okay.

A. We buy poles that have to be tall enough to meet the standard.

MR. MILLS: I have no further questions.

JUDGE THOMPSON: Thank you, Mr. Mills. Redirect?

MS. WHEELER: Your Honor, we have none.

JUDGE THOMPSON: Thank you. You are excused.

THE WITNESS: Thank you, your Honor.

(Witness excused.)

JUDGE THOMPSON: We will take a recess until ten minutes after the hour, unless you have something of staggering importance to impart to me.

MS. WHEELER: We'd just like to reoffer the

exhibits for admission.

JUDGE THOMPSON: Did you offer those at the beginning?

MS. WHEELER: We'd like to offer the admission of Exhibits 4, 5, 6 and 7.

JUDGE THOMPSON: Very well. Any objections?

MR. WILLIAMS: No objections, your Honor.

JUDGE THOMPSON: Okay. Exhibits 4, 5, 6 and 7 are received.

(EXHIBIT NOS. 4, 5, 6 AND 7HC WERE RECEIVED INTO EVIDENCE.)

MR. SWEARENGEN: While you're doing that, just as a housekeeping matter, I had Exhibit 25 marked this morning.

JUDGE THOMPSON: That's correct.

MR. SWEARENGEN: And I would offer it at this time. It is an update to Mr. Stowe's surrebuttal Schedule DLS-1. It was so identified.

JUDGE THOMPSON: Any objections to the receipt of Exhibit 25?

MR. WILLIAMS: No objection.

MR. MILLS: While we're on this, your Honor, have you already admitted 1 through 3?

JUDGE THOMPSON: Yes.

MR. MILLS: Thank you.

JUDGE THOMPSON: Exhibit 25 is received. We are in recess.

(EXHIBIT NO. 25 WAS RECEIVED INTO EVIDENCE.)

(A BREAK WAS TAKEN.)

JUDGE THOMPSON: Who's our next witness? Mr. Gray. Go ahead and state your name, sir.

MR. GRAY: Charles R. Gray.

JUDGE THOMPSON: Could you spell your last name for the reporter?

MR. GRAY: G-r-a-y.

JUDGE THOMPSON: Raise your right hand.

(Witness sworn.)

JUDGE THOMPSON: Please take your seat. You may inquire.

CHARLES R. GRAY testified as follows:

DIRECT EXAMINATION BY MS. WHEELER:

Q. Good afternoon, Mr. Gray. Are you the same Charles Gray that caused to be prepared for purposes of this proceeding certain direct and surrebuttal testimony in question and answer form?

A. Yes, I am.

Q. And is it your understanding that your direct testimony has been marked as Exhibit 8 for purposes

of this case and your surrebuttal as Exhibit 9?

A. Yes.

Q. And with respect to your direct testimony and surrebuttal testimony, do you have any corrections to either of those at this time?

A. No, I do not.

Q. If I asked you the same questions that are contained in your direct and surrebuttal testimonies, would your answers today under oath be substantially the same?

A. Yes, they would.

Q. And are those answers true and correct to the best of your knowledge, information and belief?

A. Yes, they are.

MS. WHEELER: I move for admission of the Exhibits 8 and 9 and tender the witness for cross-examination.

JUDGE THOMPSON: Any objection to the receipt of Exhibits 8 or 9?

MR. WILLIAMS: No objection.

JUDGE THOMPSON: Okay. Those are received and made a part of the record of this proceedings.

(EXHIBIT NOS. 8 AND 9 WERE RECEIVED INTO EVIDENCE.)

JUDGE THOMPSON: Major Paulson?

MR. PAULSON: No questions, your Honor.

JUDGE THOMPSON: Thank you, sir. You have my heartfelt thanks and those of your countrymen.

Mr. Conrad?

MR. CONRAD: I also have no questions, Judge.

JUDGE THOMPSON: Same to you, buddy. Empire? Wait. They're not here.

Staff?

CROSS-EXAMINATION BY MR. WILLIAMS:

Q. Good afternoon, Mr. Gray.

A. Good afternoon.

Q. Given that Aquila used a method based on summer peak usage for allocating production and transmission costs to customer classes, how did Aquila translate production and transmission costs into winter rate values?

A. When -- out of the cost of service study came revenue targets by each of the customer classes. From those revenue targets and the fixed billing determinant that all the parties were using, we came up with rate component values. My portion of the rate design was after Matt Tracy had the shapes, David Stowe had the cost of service study, then the outputs, these are the targets that we hit by each of rate classes, the customer

classes.

So then I -- we were -- we had a customer component, and in my direct testimony, the customer charges for the most part are the customer-related costs divided by the number of customers in that customer class in the test year. If it was a demand, an energy charge, then we came up with -- we had the target, revenue targets that we needed to hit in total, because this is a revenue neutral case and within the classes. Then we developed demand charges, summer and winter, and energy charges, summer and winter, that would result in us receiving the allowed revenue for each of the customer classes, based on the fixed set of billing determinants.

MR. WILLIAMS: No further questions.

JUDGE THOMPSON: Thank you, Mr. Williams. Mr. Mills?

MR. MILLS: No questions.

JUDGE THOMPSON: Questions from the Bench, Commissioner Appling?

COMMISSIONER APPLING: I came in late, so I'm going to pass. You're getting away, Mr. Gray. Thank you anyway. No questions, Judge.

JUDGE THOMPSON: Thank you, Commissioner.

QUESTIONS BY JUDGE THOMPSON:

Q. Mr. Gray, what was your part -- or in fact

I guess you have just described what your part of this three-man team was; is that correct?

A. I'm responsible for the rate component values, whether it be the customer charge, the demand charge, an energy charge for each of the customer classes. And within those customer classes there might be multiple rate IDs. For example, in our small general service class, it says, small general service, and we have a small general service rate, we have a demand rate and a non-demand, depending on the size of the customer.

In the non-demand side, we have our small general service non-demand. We also included the billing determinants for the school and church rate, also for the municipal water pumping rate and the parks and rec rate. So there were five rate IDs, and the rate IDs are tied to each individual customer, how that individual customer's bill is calculated. So we've got the target, the settlement target from the revenue case, that X millions of dollars.

Q. Right. When you say target, that's the amount of money that that class is supposed to generate or the amount of money that all the classes together are supposed to generate?

A. The target, the agreed-upon target was in total.

Q. Okay. Total company revenue requirement?

A. Correct. Within that total, each class is broken down with their portion of it.

Q. In fact, that's what this case is all about?

A. Each cost of service study has different values in each of the classes. We still all add up to the total at the end of the day.

Q. Okay. So -- and we heard from Mr. Tracy what his part was. Tell me if you know what Mr. Stowe's part was.

A. He is our cost of service study witness and expert. So he took the loads, entered them into our cost of service study software, and generated the cost of service revenue targets by each of the customer classes. So, for example -- one moment, please.

Q. Before you go into your example, let me ask you some more questions.

A. Okay.

Q. The data that was used we've already heard was the billing determinants that were shared by the company with all the parties this past August; is that correct?

A. Yes. And I was the one that generated the billing determinants.

Q. Great. Then you can answer questions about those; is that right?

A. I would hope I could.

Q. Okay. That data was collected when? When was that data collected?

A. The data for the billing determinants is for the 2002 test year. So we took for each of the rate IDs, each of the tariffs, the billing units, number of customers, dollars collected for each of those rates for January through December of 2002. So that is our starting point. That is what was billed. That is true. That's what happened. This generated this many millions of dollars.

Q. Okay. Keep going.

A. Then we took the -- in that rate case, and the number is escaping me, but the revenue case, there were accounting adjustments done, whether it's customer normalization, weather factor, different adjustments that were done that affected some or all of the customer classes. And we took those adjustments and those dollars and we took our January through December billing determinants of 2002 and moved to a new total of here -- by rate ID and, for example, in the residentials we had MO-860 for MoPub, which is the residential general series and then MO-870 for the residential space heating rate.

So we took --

Q. So let me ask you this: Each rate ID is equivalent to a tariff that the company actually charged people during the test year?

A. Correct.

Q. So it is a -- it is a compilation of the amount of money that was produced under that particular tariff during the test year?

A. Correct.

Q. Okay. And in addition to the total amount of money that was produced, what was the rest of the information? Because you were talking too quickly for me to write it all down.

So for each ID, each rate ID or each tariff item, you have the total amount of money it generated, correct?

A. That is correct.

Q. What else do you have? Do you have the total number of customers served?

A. Oh, definitely, because in the billing determinants there are typically three pieces.

Q. And what are they?

A. The number of customers billed, the number of bills that went out the door for that rate ID in any given month.

Q. Okay.

A. The KW demand that we bill those customers. For residential customers we don't have a demand, but for the non-residential customers most of them will have demand. So for a customer we might have billed him 100 KW and that is priced out at the rate value. Then we've got the energy, the kilowatt hours. That is also priced out, if there might be -- there's a few other charges that some of the rates have, but typically those are the three pieces, and if you add --

Q. So number of customers billed monthly, the KW demand monthly, and the number of kilowatt hours. Now, when you say number of kilowatt hours, is that per customer or is that total for that rate ID?

A. That is total per rate ID, but if the rate ID is a stepped rate or has multiple charges, depending -- all kilowatt hours aren't priced out at the same price.

Q. I understand.

A. So we've got -- so what we provided was the kilowatt hours in each of the buckets, however many there might be. There might be one. There might be three or four or however many.

Q. In other words, if the rate changes after a certain total is reached, you would have the number produced in each of those areas?

A. That is correct.
Q. Okay. Subrates or whatever you call them?
A. Yeah.
Q. All right. So that's what the data looked like; is that correct?
A. That was our starting data, and that was, again, all agreed by all the parties that that truly was -- that was billed sales for 2002.
Q. I understand that everybody agreed to it. Now, was that the same as the test year for the rate case that this case spun out of? Was it the same test year used in that rate case?
A. It was the starting point of that test year. And if I remember correctly, it was updated through May of 2003 for known and measurables. So what we did out of the original 2002 data by rate ID, we took the adjustments that were agreed upon in the settlement, whether it is the weather, if you had added new big large industrial customers or if you lost large industrial customers, if there was an adjustment we took those dollars -- and those adjustments are by rate ID. Those were provided by the Staff to us.
Q. Okay.
A. We took them --
Q. That was up through May of 2003?

A. That's the way I recall.

Q. Now, it's my understanding from Mr. Tracy's testimony there have been some additional adjustments or updates.

A. I believe that there are adjustments through the end of September possibly. You need to get to a finishing point so that the people can do the work.

Q. I understand that. What I'm trying to understand is when the finishing point is.

A. I believe on the billing determinants --

Q. Yes, sir.

A. -- it is May of 2003.

Q. May of 2003. Okay. Now, you stated, then, that Mr. Stowe took the billing determinant data and entered it into your software?

A. No. I was mistaken if that's what I said.

Q. Tell me what is the next step. What was the next step?

A. He had load data, and he entered numbers of customers and usage in his cost of service. I provided the detail after the cost of service cranks through and allocates dollars based on whatever method you choose, whether it should be customer, demand energy and which class it goes.

Again, then we came to the revenue by the

classes, and because I deal on the rate ID level as opposed to even the customer class, where the Staff and industrials and the OPC combine both the residential general service and the residential space heating together in one class, those are two rate IDs to me, and we collect our dollars differently for customers that are on the general use rate MO-860 versus the customers that are on MO-870.

Q. I understand that. Now, I've asked you about the load data. Are you able to tell me what was done next after the data was collected, or do I need to ask one of these other two guys?

A. I can tell you.

Q. Okay. What was the next step after the data was collected and then adjusted for known and measurable up through the end of May 2003? What did you do with that data next as part of this process?

A. Then we normalized the tariff by rate ID.

Q. Okay.

A. All this was provided to all the parties on October 19 -- August 19th of 2005, the billing determinants. Then we factorized -- I think that we came up with that name. I'm not sure that it's really a word, but we came up with it. But we factorized on the normalized tariff, and so we got these new billing

determinants that everyone can work with that have brought in these adjustments.

When I get my data from our billing system, I'm looking at each individual bill. When an accounting adjustment is done, that's more toward a class of customers like the residentials, but it may or may not tell me what month, and it may or may not tell me what rate ID that is, but it certainly doesn't tell me which rate ID that is. So we're able to just factor them up.

Q. Okay. Let me ask you this: It's my understanding that in a class cost of service study, that a big part of what you do is to assign the various costs to the different classes. Some are assigned directly and some are allocated based on factors that are developed; is that correct?

A. That is correct.

Q. And which of the three of you did that step?

A. David Stowe.

Q. Mr. Stowe did that step. Okay. Thank you. And if you know, did he do that using software or did he do it in some other way?

A. He did that with a software package.

Q. Okay. And if you know, what was that software package?

A. It is -- we refer to it internally as our TACOS software package.

Q. Okay.

A. Threshold Associate -- I'm not sure. It's from a company, but their acronym is T-A-C-O-S.

Q. Okay. So it's software that is developed and sold in order to do exactly this kind of work; is that correct?

A. That is correct.

Q. Okay. And it's sold then to commissions like this one, perhaps, and energy companies like yours; is that correct? Or maybe you don't know.

A. I know it is sold to energy companies, utilities. I do not know if it has been purchased by any commissions.

Q. Okay. And what kind of output does this software produce, if you know?

A. The output that it produces are many of the schedules that are in David Stowe's testimony.

Q. Okay. What you feed in are the billing determinants, what you get out are various analyses of these as reflected by printouts in his testimony; is that correct?

A. That's correct.

JUDGE THOMPSON: I think that's all the

questions I have for you. Thank you. Other questions from the Bench?

(No response.)

JUDGE THOMPSON: Recross based on questions from the Bench, Major Paulson?

MR. PAULSON: No questions, your Honor.

JUDGE THOMPSON: Mr. Conrad?

MR. CONRAD: No questions, Judge. Thank you.

JUDGE THOMPSON: Mr. Williams?

MR. WILLIAMS: No questions.

JUDGE THOMPSON: Mr. Mills?

MR. MILLS: No questions.

JUDGE THOMPSON: Redirect?

MS. WHEELER: None from the company.

JUDGE THOMPSON: Thank you. You may step down. You are excused. Thank you for your testimony today.

(Witness excused.)

JUDGE THOMPSON: Maurice Brubaker. Go ahead and state your name, sir.

MR. BRUBAKER: My name is Maurice Brubaker.

JUDGE THOMPSON: And if you would spell your last name for the reporter.

MR. BRUBAKER: B-r-u-b-a-k-e-r.

JUDGE THOMPSON: Very well. Raise your right hand.

(Witness sworn.)

JUDGE THOMPSON: Please take your seat. You may inquire, Mr. Conrad.

MAURICE BRUBAKER testified as follows:

DIRECT EXAMINATION BY MR. CONRAD:

Q. Good afternoon, Mr. Brubaker. Are you the same Maurice Brubaker that submitted three pieces of testimony in this proceeding?

A. I am.

Q. And have those been marked your direct being Exhibit 10, your rebuttal being Exhibit 11, and the surrebuttal being Exhibit 12?

A. That is correct.

Q. And I believe all three have attached schedules which I trust you prepared or were prepared under your direction?

A. That is correct.

Q. Do you have any corrections --

A. With the exception of surrebuttal, which I believe has no schedules attached.

Q. Do you have any corrections to any of that testimony?

A. I have two minor corrections to the

surrebuttal testimony.

Q. And that is Exhibit 12?

A. Exhibit 12. This would be on page 12. These are essentially typographical errors, non-substantive. On line 5, which is subpart B of summary point No. 2, the word principle should be l-e-s. And on line 6, the first word is explores. That should be stricken. The correct word is extols. And those are my only changes.

Q. Extols, e-x-t-o-l-s?

A. Yes.

Q. Now that you have been sworn, Mr. Brubaker, with those corrections, if I were to ask you the questions contained in Exhibits 10 through 12, would your answers be the same?

A. They would.

MR. CONRAD: Your Honor, I would move at this time admission of Exhibits 10, 11 and 12.

JUDGE THOMPSON: Any objections to the receipt of Exhibits 10, 11 or 12?

(No response.)

JUDGE THOMPSON: Hearing none, the same are received and made a part of the record of this proceeding.

(EXHIBIT NOS. 10, 11 AND 12 WERE RECEIVED INTO EVIDENCE.)

MR. CONRAD: And the witness is tendered for cross-examination.

JUDGE THOMPSON: Thank you, Mr. Conrad. Mr. Swearengen?

MR. SWEARENGEN: We have no questions.

JUDGE THOMPSON: Thank you. Mr. Williams?

CROSS-EXAMINATION BY MR. WILLIAMS:

Q. Good afternoon, Mr. Brubaker.

A. Good afternoon.

Q. In your rebuttal testimony, you indicate that you are not aware of any -- aware of the allocation methodology that Staff has proposed for generation being used in any other state, and then you asked, has the Staff confirmed this? You have that question?

A. I recall the question, yes.

Q. And you put in as a response, yes, in response to SIEUA and Data Request No. 12, Mr. Busch confirmed that it is not used anywhere else; is that correct?

A. Correct.

Q. What was the basis for your statement that Staff has confirmed that in Data Request No. 12?

A. I guess I had read his response to be that. As I look at it again, it could be interpreted to be that Staff is just unaware of it, that potentially there is

some state that uses it.

Q. Have you seen what's been marked as Exhibit No. 26?

A. I have, yes.

Q. And is that the Data Request you were referring to in your answer?

A. It is.

MR. WILLIAMS: No further questions.

JUDGE THOMPSON: Thank you, Mr. Williams. Mr. Mills?

MR. MILLS: Thank you. I've got a few.

CROSS-EXAMINATION BY MR. MILLS:

Q. Good afternoon, Mr. Brubaker.

A. Good afternoon.

Q. My questions are -- just for a point of reference, they're basically all having to do with your rebuttal testimony. Your rebuttal testimony, page 4, line 7 through 9, you assert that the cost of service study method used by Public Counsel witness Meisenheimer is unusual and not generally consistent with accepted cost allocation procedures; is that correct?

A. Yes.

Q. Is it your belief that whenever a cost of service study -- cost of -- class cost of service analyst uses a methodology substantially different from the NARUC

cost allocation manual, that the analyst is using a methodology that is unusual and not generally consistent with accepted cost allocation procedures?

A. If it's not -- if it's not referenced in NARUC manual, it probably is unusual. Depending on the particular study, it may or may not be consistent with cost causation principles.

Q. So it could be -- although unusual, it could be consistent with accepted cost allocation procedures, even though it's not in the NARUC manual?

A. I suppose a particular study could be. This particular study in question is not one that I would put in that category.

Q. Okay. Still on page 4 of your rebuttal testimony, on lines 11 through 13, you indicate that one of the areas where you take exception to Ms. Meisenheimer's method is the area of classification of production system expenses, correct?

A. Correct.

Q. Now, on page 7 of your testimony, you address the differences you have with Ms. Meisenheimer in the classification of production system expense. At lines 3 through 5 you disagree with the way Ms. Meisenheimer has allocated Accounts 502, 504, 505, 506, 509, 512, 513, 514, 553, 556 and 557. Am I correct?

A. Correct.

Q. Now, do you disagree with the way Ms. Meisenheimer has allocated these accounts because her allocation methods are contrary to the methods recommended in the NARUC cost allocation manual?

A. No. I think the NARUC manual talks about more than one possibility for the allocation of costs, so that's not my primary basis for disagreement.

Q. Okay. Focusing on Accounts 512, 513 and 514, I'll just sort of do them one at a time. Did you allocate 512 using class energy or class demands?

A. Class demands.

Q. Is that the method recommended by the NARUC cost allocation manual for Account 512?

A. I don't know that the NARUC manual recommends a specific methodology. There is a table in the NARUC manual that I think has columns for demand and energy, and it puts that particular account in the energy column for allocations. Illustrative but not conclusive.

Q. So you believe those tables are simply illustrative?

A. I don't think the NARUC manual compels a particular allocation of those costs. I think maybe --

Q. The way I phrased the question was recommends.

A. Yeah. I'd have to go back and look at the language and see if it's a recommendation or if it's just a note as to common methodology.

Q. Do you have a copy of the NARUC manual with you?

A. I do.

Q. Could you check, please?

A. Sure. It basically says, referring to the -- I'm sorry. Just a second. Yeah. It basically says, in referring to Exhibit 4-1, which is where the material appears, it says Exhibit 4-1 summarizes typical classification of FERC Accounts 500 through 557. So it's just reporting typical classification and not necessarily making a recommendation.

Q. So according to the NARUC manual, the way you have classified Account 512 is atypical?

A. That's what whoever put this together in 1992 thought, apparently.

Q. Okay. 513, did you allocate that using energy or demand?

A. Demand.

Q. And is that the method shown on the NARUC manual for that account?

A. No. It's under the same caveats and understanding it's what the table purports to show, it's

noted as energy.

Q. And 514, did you use energy or demand?

A. Demand.

Q. And the NARUC manual shows that with a check mark on energy?

A. Correct.

Q. Okay. So with the same caveats, it would say that your allocation is atypical?

A. With the same caveats, yes.

Q. All right. Now, let me ask you to turn your attention to some questions about sulfur dioxide allowances. Are you familiar with these allowances?

A. Yes.

Q. Then would you agree that for each ton of SO2 emitted from a utility, the utility is required to surrender one SO2 allowance to the EPA in order remain in compliance with the EPA regulations?

A. I don't remember all the details of that, but I think at a very general level, that's correct.

Q. Essentially it's a trading program?

A. Right.

Q. You emit one ton, you have to give up one allowance?

A. Right.

Q. Would you agree that as a byproduct of

generating additional kilowatt hours from a coal plant, there's additional SO2 emitted?

A. Well, there's SO2 emitted. I don't know if -- additional to what presumes there's some base level.

Q. Right. The more you generate, the more SO2 you emit?

A. Generally correct.

Q. And isn't it true that the generation of energy from all coal plants, except for integrated gassification combined cycle, will cause SO2 to be emitted?

A. Correct.

Q. And isn't it true that Aquila doesn't have any integrated gas combined cycle coal plants in Missouri?

A. Correct.

Q. Now, turning to Account 509, did you allocate that using energy or demand?

A. I believe I allocated that on demand.

MR. MILLS: That's all the questions I have.

JUDGE THOMPSON: Thank you, Mr. Mills. Questions from the Bench, Commissioner Appling?

COMMISSIONER APPLING: No questions, Judge.

QUESTIONS BY JUDGE THOMPSON:

Q. Mr. Brubaker?

A. Yes, sir.

Q. How many class cost of service studies have you done?

A. Hundreds.

Q. Hundreds?

A. Multiple hundreds perhaps.

Q. Okay. Tell me the steps that you went through in this class cost of service study.

A. In this study, steps I took basically are Aquila had developed a class cost of service study as a result of the spin-off docket that we're in, and we had participated in technical conferences over a period of several years on load research methodology, classification of distribution plant and general construction of the allocation model. When the company -- when we reconvened this spring and summer, we had the benefit of the preliminary work that Aquila had done.

So my step was to review the Aquila allocations and the classifications that they had done, and I made some preliminary judgments as to what I agreed with and where I might be different. There were very few areas where I had reason to depart from what I thought Aquila had done.

We also had a Staff model, preliminary model that had allocations in it. I reviewed that, and I

put together my testimony then. I used the Staff's model structure, and I used the allocation methodology for generation of transmission that I felt was appropriate based on my analysis of the load patterns of Aquila MPS and Aquila L&P.

Then as we looked at the filings of others in direct testimony, I made some minor modifications to reach the study that I filed in my rebuttal testimony.

So I went through the processes of looking at the classification, classification and allocation, but not in as formal a way as I would have done it had I been starting with a clean sheet of paper.

Q. Okay. Were you in the room for the testimony of Mr. Tracy earlier today?

A. I was.

Q. And did you hear the criticisms that Mr. Tracy made of the study that Staff has presented in this case?

A. Yes, I did.

Q. And do you agree or disagree with those criticisms made by Mr. Tracy?

A. I agree with Mr. Tracy's criticisms of that methodology.

Q. Okay. Now, have you seen -- or do you have Exhibit No. 25, which is a chart that was presented by

Mr. Swearengen during his opening statement?

A. I do.

Q. And that chart sets out for each of two service areas four different visions of the class cost responsibility shifts that various parties believe should come out of this case; is that correct?

A. That is correct.

Q. Okay. And your vision, in fact, is presented in the third vertical column from the left, is it not, the one that is headed SIEUA/AG Processing/FEA?

A. It is.

Q. And these are exactly the results you reached in your study; is that correct?

A. Yes.

Q. Okay. As an expert in class cost of service studies, and I assume you are, having done hundreds by your own testimony, how would you account for the wide differences reached by the different parties' experts using the same billing determinants and the same load study?

A. Well, Judge, I think it basically comes down to different selections on how to allocate generation and transmission costs. The other differences I think are relatively minor in the context of these studies and these differences.

Q. If you could give me a succinct statement of the method that you used to allocate those costs.

A. I will try. The method I've used is the average and excess three non-coincident peak method.

Q. That's the same method Mr. Tracy said he used; is that correct?

A. Mr. Tracy used a very similar method, average and excess three coincident peaks. My study does not use coincident peaks. My study uses non-coincident peaks or may be more easily understood if referred to as maximum demands of customer classes, one each from the summer peak months. So basically what the study says is there's an average demand or energy component, the average part of average and excess, and that's simply taking every class's kilowatt hours for the year and dividing the number of hours, gives you average demand.

The second part, you look at the maximum demands of each class regardless of when they occur, and we look just in the summer. We didn't attribute generation capacity costs to customers separate and apart from what they used in the summertime. Then the second part of the allocation, then, is to subtract the average demand of each class from their average of the non-coincident peak demands. That creates a number called the excess demand. It's how much you go above what your

average is for the year.

The average and excess allocation factor is determined by multiplying the average demand times the system load factor, a percentage, and then multiply the excess demand by the quantity 1 minus the system load factor. So if the system load factor is 60 percent, as it is in the case of Aquila Networks L&P, and we multiply the average demand to be claimed their responsibility demand times 60 percent, and then the excess times 40 percent, add two together and that's the allocation factor.

Q. Okay.

A. And it gives you a picture of average energy use, as well as maximum requirements of classes through the year.

Q. Now, is this method sensitive to the base load usage in the way that Mr. Tracy stated that Staff's method is not? In other words, what Mr. Tracy testified, his criticism of Staff's method which you share, you joined, is that Staff charged everybody at the highest level; is that correct?

A. That was one of his criticisms. I think he said in developing the allocation factor used marginal cost of energy in developing the allocator. Mine doesn't approach that, approach the problem from that way. The average and excess looks at the average load requirements,

kind of the base load requirements if you want to think of it that way, of all the customer classes and takes the point of view that we have built a system for all of the customers and all of the customers must share in the fixed costs and the variable costs of this system. And the traditional approaches used to measure class demands, which in my case is average and excess 3 NCP, and also the responsibility for energy, which is the annual energy consumption.

Q. Okay. Now, I notice that your results, at least for MPS, are not dissimilar to the results reached by Mr. Tracy and his team. Would you agree with that?

A. I would agree with that.

Q. And is your position that the responsibility, for example, of the residential class should be increased by almost 10 percent?

A. The cost study results would peg them at that point. My revenue allocation recommendation isn't that. It's different.

Q. What is your recommendation for revenue allocation?

A. I recommended that we move closer to cost, but not -- this is all revenue neutral.

Q. I understand.

A. But not increase any class revenues by more

than between 4 and 6 percent.

Q. And why is that?

A. Just to moderate the increases, double digit or approaching double digit increases when we're doing -- and we haven't done one for a long time may be more than appropriate. So I typically try to recognize that these disparities grew up over time, and it makes, I think, good sense not to move all the way to fix that problem in one step, but rather do it gradually, and that way you can look at the results over time and not unduly impact any particular class as a result of this realignment.

Q. Is it -- your concern is with what's called rate shock?

A. Yes. Rate shock and undue impact, correct.

Q. Okay. And if your recommendation is adopted by the Commission, there will, in fact, continue to be some subsidization?

A. There will.

Q. Do you think this sort of case, this sort of proceeding should occur more frequently?

A. I do.

Q. How frequently would you suggest?

A. I run the risk of being accused of generating business for myself when I answer this. I

think every three to five years would be a sensible interval.

JUDGE THOMPSON: I have no further questions.

Commissioner, do you have any questions for this witness?

(No response.)

JUDGE THOMPSON: Recross based on questions from the Bench, Mr. Swearengen?

MR. SWEARENGEN: We have none. Thank you.

JUDGE THOMPSON: Mr. Williams?

MR. WILLIAMS: No questions.

JUDGE THOMPSON: Mr. Mills?

MR. MILLS: No questions.

JUDGE THOMPSON: Redirect?

MR. CONRAD: Judge, by your leave, I just have a couple if I could just handled them from here, please.

JUDGE THOMPSON: You may.

REDIRECT EXAMINATION BY MR. CONRAD:

Q. Mr. Brubaker, Mr. Mills queried you about the NARUC manual and its treatment of two or three accounts that he specifically referenced. I believe he referenced Accounts 512, 513 and 514. Do you recall that?

A. I do, yes.

Q. What is the label on Account 512? I guess while you're looking, I would rephrase that question. Please describe the label on 512, 513 and 514.

A. Maintenance of boiler plant.

Q. That's 512?

A. Correct.

Q. 513?

A. Maintenance of electric plant.

Q. 514?

A. Maintenance of miscellaneous steam plant.

Q. One question, back to the 30,000-foot view. What in your view is the significance of the NARUC manual as a whole?

A. Well, overall it lays out, you know, a view of methods that are commonly -- commonly used throughout the industry.

Q. The Judge asked you a question about the process you went through to do the study that you have on here. Do you recall that question?

A. I do.

Q. You indicated, I believe, something along the lines that you had reviewed the work that Aquila had done and you evaluated it. Do you recall that?

A. I do, yes.

Q. Please describe the standard or standards

that you used in notifying the Commission.

A. Well, in my evaluation of that work, I relied upon my experience and performing and reviewing cost of service studies, and, you know, whether or not the company's studies generally followed what I have come to believe are reasonable approaches that are used in cost of service studies. I was satisfied that -- that they were.

MR. CONRAD: One last question, Judge.

BY MR. CONRAD:

Q. Mr. Brubaker, Staff counsel queried you about an SIEUA Data Request, I believe it was our No. 12, and it's been marked and admitted as Exhibit 26 here.

A. Yes.

Q. Given your experience, please describe any awareness that you have of any other regulatory commission that uses the Staff's methodology.

A. I have not encountered this methodology anyplace else in the 25 or 30 or so jurisdictions that I've become familiar with.

MR. CONRAD: Thank you, Mr. Brubaker. Thank you, Judge. That's all I have.

JUDGE THOMPSON: Thank you. You may step down, Mr. Brubaker. You are excused. Thank you for your testimony in this proceeding.

(No response.)

JUDGE THOMPSON: Okay. Our next witness would be Mr. Busch. It's about 12 minutes after four. I guess we might as well start Mr. Busch today. Is that to everyone's agreement? I think you're certainly all going to be back here tomorrow no matter what we do with Mr. Busch now.

State your name for the record.

MR. BUSCH: My names is James A. Busch.

JUDGE THOMPSON: Would you spell your last name, please?

MR. BUSCH: B-u-s-c-h.

(Witness sworn.)

MR. WILLIAMS: Judge, because I've noticed you've been doing it with other witnesses, I wanted to let you know that the Staff witness will be James Watkins, who provides an overview of both class cost of service and rate design issues. He's also the Staff person who developed the time of use allocators that are the subject of much contention in this case.

JUDGE THOMPSON: We're not going to get to him today.

MR. WILLIAMS: Mr. Busch performed the Staff's class cost of service study, and Janice Pyatte is a third Staff witness who provides some background on class cost of service and who addresses rate design issues

in particular.

JUDGE THOMPSON: Thank you. You may proceed.

JAMES A. BUSCH testified as follows:

DIRECT EXAMINATION BY MR. WILLIAMS:

Q. Mr. Busch, did you prepare direct testimony that's been marked as Exhibit No. 13, rebuttal testimony that's been marked as Exhibit No. 14 and surrebuttal testimony that's been marked as Exhibit No. 15 that were all prefiled in this case?

A. Yes, I did.

Q. And if I were to ask you the questions that -- well, first of all, do you have any changes to any of those exhibits?

A. I don't have any changes, but I would like to note for the record that there were a couple of errors in my direct testimony that I made in my rebuttal testimony.

Q. There are errors in your direct testimony that you provided corrections?

A. I provided corrections for them in my rebuttal testimony.

Q. If I were to ask you the questions that are set forth in Exhibits No. 13, 14 and 15 here today, would your answers be the same as they are in those exhibits?

A. Yes, they would.

MR. WILLIAMS: Staff offers Exhibits 13, 14 and 15.

JUDGE THOMPSON: Do I have any objections to the receipt of Exhibits 13, 14 or 15?

(No response.)

JUDGE THOMPSON: Hearing no objections, the same will be received and made a part of the record of this proceeding.

(EXHIBIT NOS. 13, 14 AND 15 WERE RECEIVED INTO EVIDENCE.)

MR. WILLIAMS: Staff tenders the witness.

JUDGE THOMPSON: Thank you. Mr. Mills?

MR. MILLS: No questions.

JUDGE THOMPSON: Major Paulson?

MR. PAULSON: Yes, sir.

CROSS-EXAMINATION BY MR. PAULSON:

Q. Good afternoon, Mr. Busch. How are you?

A. Pretty good, sir. How are you doing today?

Q. Fine. Thank you. Do you have a copy of the NARUC cost allocation manual with you?

A. I do.

Q. Excellent. Did you provide the response to SIEUA and AGP DR No. 10?

A. I believe I did.

MR. PAULSON: Could I have this marked, your Honor? I believe it's 26. Is that --

JUDGE THOMPSON: 27, I think.

MR. PAULSON: 27.

JUDGE THOMPSON: Okay. So this will be Exhibit No. 27. This is, what, Staff response to a Data Request?

MR. PAULSON: Do you need a copy, Mr. Busch?

THE WITNESS: I do.

(EXHIBIT NO. 27 WAS MARKED FOR IDENTIFICATION BY THE REPORTER.)

JUDGE THOMPSON: Thank you.

MR. PAULSON: May I proceed, Judge?

JUDGE THOMPSON: You may.

BY MR. PAULSON:

Q. Mr. Busch, in DR 10 you indicated that the only material you relied on in selecting the embedded cost allocation method was NARUC's electric cost allocation manual; is that correct?

A. That is correct.

MR. PAULSON: I would offer this exhibit at this time, your Honor.

JUDGE THOMPSON: Any objections to the receipt of Exhibit 27?

MR. WILLIAMS: No objection.

JUDGE THOMPSON: What is your objection?

MR. WILLIAMS: No objection.

JUDGE THOMPSON: Very well. Hearing none, the same is received and made a part of the record.

(EXHIBIT NO. 27 WAS RECEIVED INTO EVIDENCE.)

JUDGE THOMPSON: Please proceed.

BY MR. PAULSON:

Q. Mr. Busch, I draw your attention to the NARUC cost allocation manual, I believe Chapter 4. Well, if you could turn to page 32.

A. I'm there.

Q. And then page 32 talks about embedded cost studies, correct?

A. It does.

Q. And then if you flip over to page 33, that's Chapter 4, correct?

A. It is.

Q. And it's titled embedded cost methods for allocating production cost, correct?

A. That is correct.

Q. Then if you turn to page 39, the title of that section is methods for classifying and allocating plant -- pardon me -- allocating production plant costs,

correct?

A. Yes.

Q. Okay. Now, page 41, would you agree with me that page 41 would best be termed Roman Numeral Part IV(a) and that IV(a) refers to peak demand methods, correct?

A. I see that.

Q. Now, if you would turn to page 49.

A. I'm there.

Q. And what's the title -- what's at the top of page 49?

A. Letter B, energy weighting methods.

Q. So would you agree with me that as we go through, A, peak demand methods, we're going to be looking at peak demand methods of allocating costs, correct?

A. I will agree that the NARUC manual Section 4A describes some peak demand methods.

Q. Okay. And would you agree that 4B describes energy weighting methods?

A. It describes some of the energy weighting methods.

Q. And would you please look down to -- on page 49, the No. 1, what word appears there?

A. You want me to say all the words or just one word?

Q. What appears after No. 1?
A. After No. 1, average and excess method.
Q. So would you agree with me that according to the NARUC manual, the average and excess method is an energy weighting method?
A. I would agree that the NARUC manual places it underneath the energy weighting methods section.
Q. And would you agree with me it doesn't place it in the peak demand responsibility method category?
A. I would agree that in the order, it is not placed in that order.
Q. Let me rephrase the question.
Would you agree the NARUC manual does not place the average and excess revenue in the peak demand responsibility category?
A. Yes, it does not put it in the peak demand category.
Q. Thank you. Would you agree that it would -- that it is reasonable for an analyst to use the average and excess method?
A. It may be a reasonable method to utilize.
Q. Would that -- would that be yes?
A. It may be. It may not be the most reasonable, but could be a reasonable method.

Q. Well, I don't wish to argue with you, Mr. Busch, but I guess it's either a reasonable method or it isn't. Would you agree that according to the NARUC manual it's a reasonable method?

A. According to NARUC manual, it is a reasonable method, yes.

Q. Your cost of service study indicates that on the MPS system 54 percent of rate revenue is residential and 16 percent is from the large power class; is that correct?

If that's incorrect, please give me your correct numbers.

A. Where did you get those numbers from so I know I'm looking at the right -- which -- direct?

Q. I believe I obtained those numbers from your surrebuttal testimony. There's a chart at the back of your surrebuttal.

A. Could you repeat those numbers one more time?

Q. 54 percent of rate revenue is residential and 16 percent large power service?

A. I see those percentages for total cost of service. I don't know that I calculated the percent of the rate revenues.

Q. Okay. That's fine. So your testimony is

that 54 percent of total cost of service should be allocated to the residential class?

A. Yes.

Q. And 16 percent to the LPS class?

A. Yes.

Q. Thinking back to some of the testimony that we've had about the large peaks between those two classes, specifically Mr. Tracy's testimony and his graphs with the different load shapes -- were you here for that testimony?

A. I was here for that testimony.

Q. Would you agree with me that it would be better if the MPS system had more LPS customers on it?

A. I would agree it would be better for the MPS to have all customers, all classes.

Q. Would you agree that it would make the system more efficient to have more LPS customers on the system, given those load shapes? Wouldn't more industrial customers improve the overall load shape for the system? I mean, isn't that just logical?

A. I think I agree with that.

Q. So that would be a yes?

A. Yes.

Q. Would you agree with the statement that the greater the proportion of costs classified as energy related, the greater is the revenue responsibility of high

load factor classes and the less is the revenue responsibility of load -- of low load factor classes?

Do you want me to reread that?

A. Please.

Q. Would you agree that the greater the proportion of costs classified as energy related, the greater is the revenue responsibility of high load factor classes and the less is the revenue responsibility of low load factor customers?

A. I believe that's true.

Q. That would be a yes, Mr. Busch?

A. Yes.

Q. Thank you. On page 11 of your direct testimony, you talk about Staff's generation and transmission allocation methodology, correct?

A. I do.

Q. You state that hourly energy costs from a production simulation run were used to develop a functional relationship between hourly energy costs and load, and that this relationship was used to calculate the hourly marginal energy costs. What do you mean by marginal hourly energy costs?

A. For a more detailed explanation, I would ask Mr. Watkins those questions. He's the --

Q. Mr. Who?

A. Mr. Watkins. He's the one who calculated time and use allocators. What I believe is meant by this functional relationship, it's used to calculate hourly marginal energy costs, if that's what you're asking me, what did I mean by that statement?

Q. What do you mean by hourly marginal energy costs, is my question?

Let me ask you this: What would be the highest cost unit operating in any particular hour?

A. I would believe it would be the additional unit that would be operating at that hour.

Q. Well, wouldn't -- I mean, the way the system works, isn't the additional unit normally the highest cost unit? I mean, let's talk about the summer peak, the additional unit, the highest cost unit.

A. I believe so, but like I said, for a better description of it, I would ask Mr. Watkins. He's the one who calculated it for the Staff. I put it into the cost of service study that I ran.

Q. Did your model run include spot market purchases of power or did it only include L&P or MPS generators and contract purchases?

A. I did not do the production simulation model run.

Q. Who did?

A. I believe Mr. Leon Bender did for the Staff.

Q. Mr. Bender is not testifying, Mr. Busch.

A. That is correct. So then for how that was utilized, I would ask Mr. Watkins. He's the person for the Staff who did this calculation.

Q. Does Missouri regulate utilities on the basis of marginal costs or embedded costs?

A. I believe it's embedded costs.

Q. Then why did you determine hourly marginal energy costs?

A. Again, Mr. Watkins did that when he developed the allocator.

MR. PAULSON: Your Honor, can I have a moment to consult with my expert, please? I'm almost done, but I need to --

JUDGE THOMPSON: Absolutely. How long do you think you'll need?

MR. PAULSON: Let me -- I have consulted, your Honor, and I'm ready to move on.

JUDGE THOMPSON: Very well.

MR. PAULSON: I have another Data Request, No. 11 from SIEUA and AGP.

JUDGE THOMPSON: Very well. This will be marked as Exhibit No. 28.

(EXHIBIT NO. 28 WAS MARKED FOR IDENTIFICATION BY THE REPORTER.)

BY MR. PAULSON:

Q. Data Request No. 11, did you sign that, Mr. Busch?

A. I did.

Q. And in that you stated that Staff did not consider any other methods of allocation; is that correct?

A. That is correct.

MR. PAULSON: I offer the exhibit, your Honor.

JUDGE THOMPSON: Do I have any objection to the receipt of Exhibit No. 28?

MR. WILLIAMS: No objection.

JUDGE THOMPSON: Same is received and made a part of the record of this proceeding.

(EXHIBIT NO. 28 WAS RECEIVED INTO EVIDENCE.)

MR. PAULSON: I have no further questions, your Honor.

JUDGE THOMPSON: Thank you, Mr. Paulson -- Major Paulson. Excuse me. We're a little bit past 4:30, and we're going to recess for the day, and when we return, you will still be on the stand, Mr. Busch, and we will be ready for cross-examination by Mr. Conrad.

Now, we need to talk about what time we shall return tomorrow. As you know, the Commission has an agenda session tomorrow, which I believe is scheduled to begin at the standard time of 9:30, and which is likely to last for probably two hours or more. Why don't we return at 8:30. Is that acceptable or not?

MR. CONRAD: And then?

JUDGE THOMPSON: I don't know if we break or not. If we don't break, if we go ahead and go right through the agenda period, then what we will do is we will not excuse any witnesses until the agenda is over and the Commissioners have an opportunity to ask any questions that they might have.

So what we would do is, we'll do the direct and the initial cross-examination for each witness, and then go on to the next witness. Okay? But it will depend on the instructions that I receive from the Commissioners prior to the agenda meeting.

Okay. So let's be back at 8:30. Thank you.

WHEREUPON, the hearing was adjourned until 8:30 a.m. on November 8th, 2005.

I N D E X

SIEUA/AG PROCESSING/FEA'S EVIDENCE:

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