BEFORE THE PUBLIC SERVICE COMMISSION

STATE OF MISSOURI

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TRANSCRIPT OF PROCEEDINGS

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Jefferson City, Missouri

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In the Matter of Missouri-American Water Company's Tariff to Revise Water and Sewer Rate Schedules.	)	Case No. WR-2003-0500
	)	Tariff Nos.
	)	YW-2003-2012
	)	YW-2003-2013
	)	YW-2003-2014
	)	YW-2003-2015

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BEFORE:
KEVIN A. THOMPSON, Presiding
DEPUTY CHIEF REGULATORY LAW JUDGE.
CONNIE MURRAY,
COMMISSIONER.

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JUDGE THOMPSON: Good morning, ladies and gentlemen. We're ready to resume the hearing in Case WR-2003-0500 in the matter of Missouri-American Water Company, a general rate case.

And I think we're taking up the issue of Jefferson City Fire Suppression this morning.

Mr. Comley, nice to see you.

MR. COMLEY: Good morning, Judge.

JUDGE THOMPSON: Who will be the first witness then? Mr. Kartmann?

MR. COOPER: Mr. Kartmann for the company, your Honor.

JUDGE THOMPSON: Mr. Kartmann, you know where to go.

MR. COOPER: We would tender Mr. Kartmann for cross-examination on the Fire Suppression Issue.

JUDGE THOMPSON: Very well. Mr. Kartmann, I'll remind you you're still under oath.

And what we've been doing, Mr. Comley, is starting with questions from the Bench and then doing cross, so there's only one round.

MR. COMLEY: Thank you. I'll resume my seat.

JUDGE THOMPSON: Commissioner Murray?

COMMISSIONER MURRAY: Thank you.

FRANK KARTMANN testified as follows:

QUESTIONS BY COMMISSIONER MURRAY:

Q. I have to admit it seems like it's been a long time since I read your testimony on this issue, but I more recently read the testimony of Mr. Rennick. And would you refresh my memory as to your position on the issues that he raised in his testimony?

A. Sure. In Chief Rennick's testimony he had four issues, so I'll just go through them --

Q. Okay.

A. -- one at a time. In his testimony he writes of reliable power supplies for the company's pumping operations. And in that he's referring to a date in September that he claims we lost power at the plant and there was a pressure loss in the system.

And he claims that was on September 7th. There's disagreement. We believe it was on the 14th of September according to our information. I don't know that that's material, it's just for purposes of accuracy we do disagree on that date.

My understanding from his testimony is that he believes the company should have more robust back-up power supply than it has currently. And we disagree with that. We have two AmerenUE power supplies to the plant. They are coming from two separate power substations located two miles -- roughly two miles apart from each other so that if

we lose one power supply from AmerenUE, there is the second as a redundant supply.

Chief Rennick suggests that a generator at the plant would be beneficial. In the instance of the power loss in September, a generator would have not benefited the system at all because the -- a generator would be located upstream of the switch that we had to re-activate on the date in September that was the cause for the loss of power.

And even if we had a generator and we lost both our power supplies, we still would have had that interruption in power for some period of time while it took to re-engage the breaker switch. Let me back up a little bit.

Q. Let me interrupt you just for a second. How long was that power interruption actually?

A. We estimate it was about four minutes.

Q. Four minutes?

A. Yes.

Q. Do you have any explanation for the fact that Chief Rennick and I believe another witness claim that it was between an hour and a half and two hours?

A. Yeah. I believe Chief Rennick in his Direct Testimony indicated two hours and then Assistant Chief Horn indicated an hour to hour and fifteen minutes.

Q. Okay.

A. I think he's speaking to abnormalities in pressure and claiming that those lasted for an hour to hour and fifteen minutes. I'm referring to the duration of the power loss itself.

The point being that we did lose power, the high-service discharge pumps that pump the water from the plant into the distribution system went off line. It takes -- and what was happening was the power from UE was switching to one of those two supplies to the other one.

And when that happens, by design, there's a breaker switch that drops out, as it's called, disconnects and the operator at the plant has to go from the control room to the location where that breaker is and close it. And that process took about four minutes. Once he closes that breaker, the high-service discharge pump comes back on. So it's our estimation that the duration of the power -- pressure loss was about four minutes.

Q. And is this something that is an unusual occurrence?

A. Yeah. It's an unusual thing for that to happen, but it can happen.

Q. And what is the worst thing that could happen from a four-minute power loss?

A. Well, I guess -- that's hard to say, but depending on how low pressures get in the distribution

system -- and I need to say that because you may lose pressure -- discharge pressure from the plant but there is storage out in the distribution system that also provides pressure to the system.

So our records -- the records we have don't indicate that we ever dropped to a dangerously low pressure. But if you were to drop to a low enough pressure, you could have a negative pressure situation. That could -- could pull contaminants in from the soil around the pipes if there was a main break or something.

But because of the tank that we have out in the distribution system that was providing pressure during that whole period, it's able to transmit pressure back throughout the distribution system. Kind of think it as the plant on this end and the tank on this end and they're both normally providing pressure to the system. If one goes down, the other's available to supplement that and provide enough pressure to prevent what I was describing from happening or vice-versa.

Q. Didn't Chief Rennick also have some testimony about that you don't have as much storage as you used to?

A. Yeah. He did say that. And there's a disagreement there. He's referring to the fact that in the past we had a contract with a neighboring water district, Cole County No. 2. That as part of that agreement, we had

the use of their tanks, their storage tanks. This was before a time when the Jefferson City operation had a storage tank out in the distribution system. We just completed the construction of that in June of 2002.

But when we had that agreement with the water district, the water district has several storage tanks. And I believe it was Chief Horn's understanding that, practically speaking, all those tanks were available to us for providing water and pressure to our system, but realistically or practically only two of those tanks provide any storage that was accessible to the Jefferson City operation.

The others were too far away, the piping was too small and by the time any water from those more distant tanks would enter our system, there wouldn't be, you know, any pressure -- much pressure or flow left from them. All the pressure would have been burned up in the piping getting from the tanks to our system.

Those two tanks we had access to in practical terms I believe had a combined storage of 1.2 million gallons. The tank we built in 2002 in the Jefferson City operation has a capacity of 1.5 million gallons. So in practical terms we have increased the storage capacity in our system by 300,000 gallons.

Q. All right. And in terms of the power supply

sources and the incident that happened that you were discussing earlier where there was a four-minute outage, is there anything practical that could be done to make it so that there would never be a need to switch from one source to another and incur a temporary outage?

A. I don't -- I don't see that, because at some point in the process of bringing power into the plant, it has to come from a source. And the question is, is the source reliable? If it's not, do you need to get a different one or do you need to have additional sources?

And in the occasion that occurred in September and two others I can think of in the past, having a generator or an additional source of power wouldn't have made any difference because the problem was downstream of where those sources of power enter the plant.

It was -- it was a problem -- well, it's not a problem. It's by design, as I said, when -- well, I didn't say it but I'll say it now. When the plant recognizes a change in voltage, which would be the case if one of our power supplies drops out, the other one kicks in.

By design, that switch I referred to earlier, that breaker, is designed to drop out, to disconnect so that the equipment doesn't get a surge of electricity and gets damaged or in case someone's working on equipment, they don't get hurt or killed. So by design that breaker is

designed to open.

So in an ideal world I suppose the power supply would never be interrupted, but we live in a real world and things happen. So I feel we have a pretty responsible and reliable method that considers safety of people and equipment in place in order to mitigate any power losses that occur.

Q. And the pressure loss during the time following such an incident, is that as minimal as it can possibly be without doing something totally impractical?

A. Yes.

Q. Okay. And what is the -- if you took a worse case scenario and say you had a major fire within the first 10 minutes of that power loss, how would that affect the ability to fight that fire?

A. If the power loss were at the plant and for some reason we couldn't get the power back to the plant right away, again, there's the tank out in the distribution system which has a million and a half gallons of storage.

There are the connections -- distribution system piping connections we have with Cole County Water District No. 2 and Cole County Water District No. 1 that we can open and we still, on an emergency basis, can share water between us for just the purposes that you are describing. But -- and, you know, there is -- through that

means there is ways of getting water and pressure throughout the distribution system.

Q. Thank you.

And you said that he had four concerns. What have we not addressed yet?

A. His second concern, which I apologize, my copy of his testimony is not page numbered, but it's the second page of his Direct Testimony. Item 2, he has planning for population growth and related building construction in Jefferson City; continued replacement of outdated hydrants and narrow dimension water mains; and the fourth item is adequate shallow water pumping equipment in view of lower Missouri River water levels.

Q. Okay. And as far as planning for population growth, what's your position on that?

A. We are doing that. We recognize the need to continually be evaluating our plant capacity versus the peak -- peak day demands that we see in the distribution system from year to year.

We're currently reviewing our production facility for expansion. We have some projects that are the result of studies that were done previously that give us an opportunity to increase the treatment plant's capacity through some internal improvements at the plant.

Right now you may be aware the old prison in

the area is being considered for redevelopment as a commercial facility. We're talking with them right now and they're indicating at least at this point that they will need a million gallons a day of capacity.

We'd like to -- we'd like to know that that is going to happen and certain and then incorporate that with the rest of the growth that we see in the system which, by the way, is pretty small. There isn't much in the way of development occurring within our service territory, most of it's in the water districts adjacent to us. But incorporating all that then we believe would be a good time to capture the growth that we're seeing and make those improvements to the plant.

Q. And in terms of being a regulated utility, you kind of have to plan your expansion so that it will be used and useful pretty quickly; is that correct? I mean, you can't just --

A. Well, that's an interesting point you make. I -- that will probably become clearer in some testimony later today, but as a result of the last Missouri-American rate case, that issue is in question whether or not we should be planning for today or some years out into the future.

Q. Okay. And that is one of the considerations you have to look at --

A. Oh, absolutely.

Q. -- when you will get reimbursed or if you will?

A. Right. Right.

Q. Okay.

A. I mean, we learned in the last case that at least it would appear we shouldn't have designed for peak day demand as far out into the future as we did. And as a result, some of that capital improvement was disallowed in the last Missouri-American rate case.

Q. So is it --

A. So we don't want that to happen again.

Q. Is it accurate to say the company is a little bit confused as to whether and to what degree you should be planning for the future?

A. Oh, in a general sense, yes. Not -- not specific to Jefferson City, but of course, all of our operations in Missouri, definitely.

Q. Is that the case in other jurisdictions? Do you know about the other -- any other jurisdictions that American Water is in, whether that is also a confusing situation or whether it is clear that it's reasonable to consider future needs?

A. As far as I know, none of our sister jurisdictions, if you will, are experiencing the kind of

issues about uncertainty about planning horizons and so on that we are here in Missouri.

Q. Okay.

A. I'm not aware of any.

Q. Then the issue of replacement of outdated hydrants and narrow dimension of water mains, that one raised my curiosity because of the statements that were made about the dimension of the water mains and the ability of those to provide the -- I guess it was the appropriate pressure in certain situations?

A. Pressure in flow.

Q. Pressure in flow. Okay. What is the -- what's going on there with hydrants and water mains?

A. Well, in the last United Water Company rate case, which was the predecessor owner to the Jefferson City operation, there was a stipulation that came out of that case that the company agreed to install 40 hydrants over the ensuing five years, and we've completed that. That was completed I believe as -- November 2003.

The narrow diameter water mains, years ago, decades ago smaller mains were installed around the country. It's not unique to Jefferson City, two-inch, four-inch diameter water mains. And good engineering design would -- indicates that you would not put hydrants on mains that small. They just don't have the carrying capacity.

And as you try to push more water through them, you experience increases in pressure loss as you move from one point to the next in the pipeline. And so larger diameter mains experience that pressure loss to a lesser degree. So the modern design standards would tell you that if you're designing for fire flow, you wouldn't put anything in smaller than a six-inch diameter main according to the Missouri Department of Natural Resources design guidelines.

Q. And is that also the design guidelines around the country?

A. I would say so. I don't have a lot of experience outside of Missouri, but I think that's a generally accepted trend and supported by the American Water Works Association.

Q. Is that one of those water issues that when we hear about the aging infrastructure and the large monetary needs that we can expect in the water industry, is that one of those issues that the mains were installed to different standards many years ago?

A. Well, it depends on the focus of the -- of the discussion for the need for replacement. Typically the discussion has been on the failing of that infrastructure, the inability of it to hold together and continue to provide reliable service, whatever level of service that is, whether it's with fire protection or without.

So here the issue is not the reliability of the pipes. The pipes are performing well for their intended purpose. It's if you wanted to provide fire protection on those streets where those smaller mains are located, per se, that you would have to do that.

I should point out the fact though that you can go one block over and there's a six- or an eight-inch or larger diameter water main. So it's not like you've got a whole large area where there's nothing but two- and four-inch mains. They're intermingled with larger diameter mains.

So to attach to a hydrant to put out a house fire or something, perhaps you can't do it right in front of the house, but you could come from a block away or pump directly from the pumper truck.

Q. Okay. And are there -- that's all right.

And that adequate shallow water pumping equipment at the Missouri River levels, had you stated your position on that? I'm sure you did in your testimony, but --

A. Yeah. I'm happy to elaborate.

Q. Okay. Would you just a little, please?

A. Sure. The Chief -- Chief Rennick is referring to a date last August when there was a period of a week or so when the Army Corps of Engineers was ordered by a

court -- I'm sorry, I don't recall which court -- to modify their Missouri River operating plan. And there was some dispute. One court was saying one thing, another court was saying another. Ultimately, this court prevailed and they did modify their operating plan for, as I said, a week or so, which lowered the river level near our intakes.

In anticipation of a possible problem with getting enough water out of the river to serve our customers, we took one of the submersible pumps -- and by that I mean one -- the actual pump itself sits in the water and pumps from underneath the water surface.

We took one of those that we had in our system within Missouri, transported it here and rented a barge on the river adjacent to our intake structure and put that submersible pump in the river. And it was there and connected to our intake piping and available to provide capacity for the plant if it was needed.

Q. Was it needed?

A. No, it was not. It was not. We were able to maintain service at the level necessary with our permanent facilities.

I should mention though that this was a perfectly fine method of addressing the problem and one that I feel is most prudent when this issue of what's going to happen to the Missouri River operating plan is far from

known. I wouldn't want to do something permanent until I know what the permanent answer is.

Right now the Army Corps of Engineers is proposing that they continue to operate the river in accordance with their traditional Missouri River operating plan which would satisfy the needs of barge traffic and all the various intakes up and down the Missouri River for power plants and water treatment plants and so on.

By addressing the environmental issue, which is these birds, plovers and least terns, like to nest on the banks of the Missouri River downstream of the Gavins Point Reservoir. And what happens is because of the Missouri River operating plan, sometimes those nests get washed out as the releases from the reservoir increase.

So the Army Corps of Engineers is proposing that based on their -- as they claim, their state-of-the-art method of relocating these nests, that they can move them out of the way and continue to operate normally and still manage the issue that the environmentalists have over protecting these protected species.

An answer on that is expected later this spring, but there is no answer at this time so the question of how the river will be operated in the future is still a question. So making some permanent improvement at this point I don't think would be appropriate.

Q. Probably wouldn't be considered prudent if it did not turn out to be necessary either is that --

A. I wouldn't think so. And I don't know that I could argue that it should be.

COMMISSIONER MURRAY: All right. Thank you. I appreciate your testimony

THE WITNESS: You're welcome.

JUDGE THOMPSON: Thank you, Commissioner.

QUESTIONS BY JUDGE THOMPSON:

Q. Mr. Kartmann is there a financial aspect to these issues?

A. Yes, there are.

Q. I wonder if you could give me the figures?

A. Yes, I can. We estimated that -- well, first of all there's about 85,000 feet of four-inch and smaller water main that are the subject of Chief Rennick's testimony. About 90 percent of that is located under pavement which makes it expensive to replace, more so than if it were under soil or turf.

So with that in mind, we estimated a cost to replace all that main and install hydrants on those mains every 600 feet, which is a DNR design standard, of $3.7 million.

Q. Okay. What about for the loss of power? Is there a price tag on that?

A. Well, depending on what you want to do. If you wanted to put a generator in, as he suggests, that could cost upwards of $1 million.

Q. Okay. And planning for growth, is there any kind of price tag attached to that?

A. I do not have one at this time.

Q. Okay. What about the adequate shallow water pumping equipment?

A. I don't have a price on that either.

JUDGE THOMPSON: Very good. Thank you.

JUDGE THOMPSON: Mr. Comley?

MR. COMLEY: And I'm presuming I'm next?

JUDGE THOMPSON: That's why I called you.

MR. COMLEY: We go through a round and -- all right. Thank you very much. Just a second here.

JUDGE THOMPSON: Sure.

CROSS-EXAMINATION BY MR. COMLEY:

Q. Mr. Kartmann, I know that Commissioner Murray had gone through with you the equipment that's located at the plant, particularly that energizes the pumping. But let me ask you to do that again for me. Could you describe the feeder systems that are located at the plant site that energize the pumping equipment?

A. Yes. One is referred to the Elm Street substation and the other is the Fairgrounds substation.

Q. And both are operated by AmerenUE; is that correct?

A. That's correct.

Q. All right.

A. They come from different locations -- the power lines that -- that connect the substations to our plant come from different directions. They enter what's called a switch gear. And from that switch gear then the power is sent to the plant treatment facilities via transformers and through a distribution panel.

From that distribution panel, the power gets distributed to the various pieces of equipment, pumps chemical feeders, mixers and so on. And then also from that switch gear, a few steps back, power is distributed -- or sent down to the intake facility at the river.

Q. How many pumps, by the way, are energized in that way?

A. There's I believe three or four at the intake facility and four at the high service -- at the plant.

Q. Am I right in thinking that the pumping operations at the plant are highly influential on the pressure that's in the system?

A. They are, as well as the tank site.

Q. And the tank site itself, is there a way of telling the Commission how much you would rely on the tank

for pressure and how much you would rely on those high service pumps for pressure?

A. Well, the -- the system is divided into two zones, one called the tower zone, one called the plant zone. There are -- there are pressure activated valves that divide those two pressure zones such that normally the plant pumps to the plant zone and to a booster station, the Southwest Booster Station, wherein water -- and Bald Hill Booster Station wherein water from the plant zone is pumped into the tower zone.

If you would have a pressure loss at the plant, those pressure activated valves that I mentioned that separate the two zones would recognize a drop in pressure and water that's in the tank up on Ellis in the tower zone that would have been filled by Southwest and Bald Hill Booster Station would be able to transmit water back into the plant zone. I don't know the precise pressures in those -- that sort of thing for when those valves would be activated.

Q. Going back to the power -- thank you.

Going back to the power issue, could you tell me did Chief Rennick characterize the power sources at the plant correctly in his testimony?

A. I'd have to review that. Do you happen to know what page that's on?

Q. I think he talks about that on page 2 through page 3. And I wanted to let you know that the page numbers on my copy are located in a header at the top of the page.

A. Sure enough. Sorry about that. Page 2 and page 3 of his testimony?

Q. Right. Bottom of the page on page 2 through page 3 at the top -- very much the top.

A. Just give me a moment to read that.

Q. Sure.

A. That is consistent with my understanding.

Q. All right. Good. Remind me, how long have you been with the company in the Jefferson City assets?

A. Since -- since we bought the system -- since Missouri-American purchased the system in April of 2000. I've been familiar with the system several months before that as the due diligence and so on was occurring.

Q. Did you do your own inspection of the switching gear and the electrical distribution system at the plant?

A. Yes, I did.

Q. Can you tell me how old that system is?

A. From -- from my visual observations and knowledge in water treatment equipment from my vast experience, I would guess that the switch gears probably are 197-- 1970's or 1980's vintage. The distribution panel is

probably -- you know, where this -- where this breaker is that the operator had to close, that's probably -- I remember speaking to the production supervisor. That was probably put in in the '97 time frame; 1997 time frame.

Q. Which was put in in '97? What again?

A. The distribution panel --

Q. All right.

A. -- where the breaker is that the operator had to close to resume power to the plant.

Q. Are there tests conducted at the plant on any periodic bases to confirm that the switch -- and I'm referring to the switch between the secondary power source -- is operational?

A. By secondary power source you mean Ameren's power source.

Q. Yes. Yeah.

A. I do not know offhand what Ameren does to maintain their facilities, how regularly and so on.

Q. What about your company? Is there anybody at the plant that would go through any series of tests to make sure that the power sources are energized and that they're prepared to handle any interruption in one or the other?

A. No. We don't have access to Ameren's facilities, so we don't personally inspect them.

Q. Nothing at the distribution panel? Does that

belong to you?

A. Oh, yes. The switch gear, the distribution panel, all that is our equipment.

Q. Any periodic testing --

A. Yeah.

Q. -- of that gear?

A. We have a mechanic that is dedicated to the Jefferson City operation who does routine maintenance. He would inspect for hot spots and that sort of thing on the equipment. By that I mean where insulation might be deteriorating and you run the risk of having electricity short to ground and --

Q. Do you know of any major catastrophic breakdown of that switch in the last five or six years?

A. No. No.

Q. Are you acquainted with an incident that happened in 1999?

A. I'm not sure of the date. I am acquainted with an incident related to the switch gear, different -- different piece of electrical equipment, that probably occurred around that time frame.

Q. At that time did it cause a power failure to the plant?

A. Yes.

Q. And that incident -- describe it for me,

please.

A. Well, it was -- the incident I'm thinking of is water -- the switch gear is a metal cabinet within which is located electrical switching equipment, fuses, those sorts of things. And there is some level of high-level distribution that occurs at that point, if you will. It's the first point at which the power is distributed away from Ameren's supply.

But water leaked into that cabinet and dripped onto a fuse and continued to lengthen its path until it hit ground and shorted out or burned up that fuse. And it took a while to discover the problem and get it back -- get it fixed.

But the point I was making to Commissioner Murray earlier is generator or not, it wouldn't have expedited the rate at which the plant was put back on line because the generator would have been located upstream of that switch gear.

Q. Aside from that, the incident you're talking about, at that point were there still two feeds bringing power to the plant?

A. Yes.

Q. And --

A. The feeds were fine.

Q. It was just that they -- when there was a

power loss because of the fuse problem, did either one of them click over so the plant was re-energized or was the fuse so central that it didn't allow the plant to be energized from either system?

A. Yeah. I mean, think of it as a wire and you've got current flowing from one end going to something on the other end and something in the middle gets snapped. I mean -- and that's the fuse. Until you fix that, current can't get from UE to our plant.

Q. Can you recall how long it was before power was restored through that distribution panel --

A. I don't recall.

Q. -- or switch panel rather?

A. This was a story referred to me.

Q. Okay.

A. I wasn't part of the system at that time, but --

Q. I know you mentioned a little bit of the procedures that the company goes through, but I'd like to hear the procedures that are in place in the event that power fails at the plant. What are the company personnel instructed to do when they see that happen?

A. Sure. What occurs is if for some reason outside of our facility, in other words, in Ameren's environment, AmerenUE's environment, one of those feeds, the

normal feed, one of the two described by Chief Rennick, if it should fall off line for some reason, there's an automatic transfer switch in their system that transfers our power supply to the other AmerenUE supply.

But when that happens, there's a brief interruption of power that's sensed by this breaker in the distribution panel which is downstream of where Ameren's power enters our facility.

That switch, by design, is designed to drop out or disconnect. Again, to protect anybody who might be working on equipment -- electrical equipment at the time such an event should take place and to protect the equipment itself from experiencing an electrical surge that could, you know, cause it to burn up or fail in some way.

When that happens, the operator knows immediately that he's lost power because he's monitoring his -- he's monitoring his flow rate, he's monitoring his pressures, he's monitoring his equipment that he's operating. He know that's something's happened.

So he goes from the control room to the distribution panel, which is -- I don't know -- I walked it myself. It took me maybe 30 seconds to a minute to get from the control room to the distribution panel. He then has to -- this breaker is not like a normal breaker in your house. It's bigger, it takes a lot of -- it takes some

strength to get it closed. And it's a ratchet system, so he cranks it a few time and then closes it. That ratcheting loads a spring that helps him -- aids him in closing the breaker again.

Once he closes that breaker, one of the high-service discharge pumps providing pressure to the system automatically turns on and begins pumping water into the system again and pressure is -- pressure is brought back by that result.

Then he has to go around and manually initiate or start-up the other feed equipment and so on. But that has no impact on bringing pressure back to the system because once that pow-- that pump kicks on automatically, pressure is being brought back to the system.

Q. Now, you mentioned that the operator is in an office of some sort and it's a short step over to the breaker. Is there any difference in procedures during the hours of darkness or during a non-business day for that operator?

A. No. It's a 24/7/365-day attended operation. He may be pumping more or less water on one day than another, but he's doing his normal routine every day.

Q. Is there more than one person at the plant during the day?

A. During the day there could be -- besides the

operator, there could be others doing maintenance type work. The lead mechanic himself may be at the plant, he could be at a booster station, out in the distribution system doing maintenance. The office is just a few hundred feet away. There are employees located in that office.

Q. Let's say after business hours are finished, there is how many people at the plant?

A. Be one.

Q. Just one. And that person is expected to have supervision over the entire area or is that person expected to stay in the office?

A. No. He's expected to monitor his computer screens and also physically view the systems, make sure they're operating properly, observe the filters to make sure they're functioning properly. Yeah.

Q. So there would be times when that operator would be out of the office and be out in the area outside the office area, I presume?

A. Right. But he's never very far away from the distribution panel.

Q. If there is a loss of power, is there an alarm -- an audible alarm that would go off for the operator to hear it?

A. Yes.

Q. And how audible is that alarm?

A. I don't know from my personal experience, but it's loud enough, because when this power loss event occurred in September, the operator knew about it immediately and reacted to it.

Q. That's the one on September 14th in your testimony?

A. Yeah. According to our records, yes.

Q. In the procedures you mentioned, there's nothing in there about alerting the fire department. I haven't explored this necessarily with the City, but would the company have any objection to incorporating into its procedures some kind of notification to Fire Station No. 1 when they hear an alarm that the power has been interrupted?

A. No. No, I don't -- I don't see why we would have a problem with that. It's certainly our goal to cooperate with local -- local fire departments.

Q. I assure you that's what I think the joint goal is. But that is an idea that's crossing my mind.

Let's talk about the incident that Chief Rennick and Chief Horn reported in their testimony. And I'm cognizant of the September 14th -- I'll just go to that September 14th incident that you describe in your testimony.

Following up on what Commissioner Murray has talked about, am I right in you're saying that there may have been a four-minute power loss on September 14th, but

are you saying that that could account for a much longer period of pressure reduction in the system?

A. I'm not saying that. I'm saying I don't know how long -- well, I know that -- I don't know how long the pressure was affected by that loss of power. I know that it took us four minutes to get the power back on.

My computer system that tracks the discharge pressure from the plant stopped recording for a half hour. It stopped at the beginning of the power loss incident and then in the process of powering up all the equipment, the operator got back to the computer that tracks the discharge pressure somewhere around 30 minutes after power had been lost.

So there's a 30-minute window in there where we weren't recording pressure from the plant and I don't know what -- I don't know what the pressure was during that period.

Q. By the end of that period --

A. Before the power loss and after the -- before the power loss -- just before the power loss and just -- and when the computer came back on, there's like a two-pound per square inch pressure difference.

Q. And that two-pound pressure -- and I'm concluding from your testimony that two pounds of pressure would not account for a trickle at Fire Station No. 4 or

No. 1?

A. I wouldn't think so.

Q. Have you examined -- from your records and from the testimony you've read, do you have any explanation of why there would be a trickle of water at those two stations for a period in excess of an hour?

A. No, I don't. I mean, if you lost pressure, it could take some time for pressure to reach its normal levels in all areas of the system. But, again, we had the tank at the -- around Ellis Boulevard that is providing pressure to the system as well.

I have data from the booster stations I mentioned earlier, the Southwest and Stadium Booster Station and Bald Hill and the discharge from the tank site. And those pressures look normal during the period that the Chief is indicating he experienced a pressure loss.

Q. And those are records --

A. We also don't have any customer complaints of pressure loss during that period either. So I would have expected to have received some calls from customers saying, I don't have any water, what's going on.

Q. You mentioned that there weren't any records kept on the 7th?

A. No, there are records on the 7th.

Q. There were records of the incident --

A. There's --

Q. -- on the 7th?

A. There are records of discharge pressure --

Q. Pressures on the 7th.

A. -- but they don't indicate any power loss.

Q. Any power loss.

Would the operator contacted late at night -- the operator in western Illinois or wherever that operator is --

A. Correct.

Q. -- would that operator have kept a log of the calls that evening?

A. I don't know for certain.

Q. Would the operator at the plant have kept any log showing what may have happened at the plant that night?

A. He may have. It's typical for our operators to log unusual events, failures of feed equipment or something like that so the mechanic knows what he needs to work on the next day. He may have entered something like that.

Our operator on that -- on the evening of the 14th, he has -- we interviewed him and he says, Yes, I received a call from the St. Louis dispatching center indicating that the Chief had called and --

Q. So he confirmed it was on the 14th?

A. Yeah.

Q. You talked to Commissioner Murray about improvements. The generator idea, as I remember, it was a problem downstream. Let's go to your testimony for the 14th.

A. Sure.

Q. The problem is downstream. Describe that to me in a little bit more detail.

A. Okay. Yeah. Let me go back to my example of a wire and at one end is the power supply and at the other end is the equipment using that power, in between is the wire.

So here's upstream and -- well, upstream is to my left and downstream is to my right. Somewhere in the middle the power is interrupted and that's either -- well, that happened to be at the distribution panel inside the plant facility. So at the upstream end is your two Ameren power supplies and hypothetically a generator.

It doesn't matter if you have the generator because the problem was not with having power into the plant. The problem, which is not a problem in my view, it's a design consideration, is that breaker tripped out, the power was coming to the breaker. All we had to do was close the breaker and we had power.

So whether we had 100 power sources upstream

of that breaker, it wouldn't make any difference. We were still going to have a momentary interruption of power.

Q. Consider, if you would, putting a generator or some alternate power source -- I'll call it the secondary side of your distribution panel. Then we get away from the upstream issue. It would be in the event that -- well, I'm thinking of a catastrophic breakdown of the electrical equipment. You'd have the generator located on the other side of the distribution panel. Is that conceivable?

A. Well, you'd have to have a lot more equipment as well because -- you'd have to have another distribution panel because right now the power from the power source is -- is distributed to all the various pieces of equipment through that distribution panel. You could do that. I'm --

Q. You're reluctant to say -- I would understand your reluctance to say something positive about it. I understand the issues of financing it and the issues of how prudent it would be in making the investment.

But basically isn't it conceivable that a piece of equipment could be attached on the secondary side of the distribution panel to sense an interruption in primary power and make sure it would become an uninterruptible power supply for at least the principal pump that's used?

A. I would say no, because you're still going to

want to have some protection. Because, again, you could have people working on electrical equipment or the electrical equipment itself could be damaged by the surge that could be caused by that.

I mean, there's an instant where you're losing power and another one where it's coming on. And you need that switch in the distribution panel that I'm mentioning in order to ensure that you -- that that happens properly.

Q. And you're saying then that there is no piece of equipment that could be sensory enough to make sure that that stream of power would be consistent irrespective of an interruption at the primary stream?

A. I'm not an electrical engineer, so it would be wrong of me to speculate on that.

Q. Very well. You'd be guessing if you did?

A. The proposed -- the way I've described it is the way our electrical engineer described it to me as the way it should be done.

Q. I'm taking it that the company is satisfied that this piece of equipment is dependable?

A. Yes.

Q. And you are confident that it is going to continue to be dependable despite some of the age that's on the equipment?

A. Yes.

Q. You foresee no improvement?

A. I do not foresee any electrical improvements at this time, no.

Q. There was some testimony about emergency numbers that were being exchanged between --

A. Yeah.

Q. -- the parties. And to make it clear, I was going to ask you, I'm presuming that the company had a transition team to ease the merger between Missouri-American and United Water?

A. Yes.

Q. Do you know if someone on the transition team was assigned the task of making sure updated emergency numbers were conveyed to emergency personnel in Jefferson City?

A. No. I don't recall that, but numbers were provided to the local LEPC, Local Emergency Planning Commission. And it was our understanding that those numbers were distributed by the LEPC to the various emergency responders that would be a part of the LEPC.

Q. You presume that they had passed those numbers on to the fire --

A. That's correct.

Q. -- and the police department?

A. Yes.

Q. Okay.

A. Apparently they had not.

Q. I don't think they had. I was going to ask you if there was an employee that you'd interviewed to see whether we did actually receive them, because we had no record of that. So thank you very much.

A. Apparently we did not, but we have since provided the fire department with emergency contact numbers for our manager and our supervisor.

Q. That's my understanding. I think we have that.

On the storage issue, I was going to ask you if you would turn with me to Chief Rennick's Schedule 3. Do you happen to have a copy of his testimony handy?

A. I have his testimony, but I don't believe I have his schedule.

Q. On his Surrebuttal Testimony he had --

A. Maybe I do.

Q. Let me give you a moment to see if you can locate that. If not, I have a copy here.

A. Can you describe the schedule?

Q. It was the ISO documentation of the United Water Company in 1998.

A. I believe I have that.

Q. And it's in subsection 8, Table 3 --

A. Yes.

Q. -- do you have that?

Okay. Let me ask you, is it true that this is the ISO documentation that United Water had submitted in 1998? Do you know?

A. I don't know that. We were not able to locate this same information in our records in the office at Jeff City.

Q. Presuming that it was, do you have an explanation of why the tanks were represented as being part of the ISO documentary material?

A. I don't -- I can't know what our predecessors's thinking was when they provided that information. It is true that contractually we had access to those tanks, but practically they didn't have any significant hydraulic value to the Jefferson City distribution system.

Q. I'm thinking that if there was a practical difficulty in accessing those gallons of water, that it wouldn't have been represented on a table, that's my thoughts. Do you know of anything different?

A. Only that -- only that our -- that -- only that the tanks more distant than Christy and Vieth physically do not provide us much -- don't provide us any storage.

Q. You're talking about the Schott Road and the Brazito towers on this? I think there's --

A. Schott and Brazito, yes.

Q. Let me ask you this. If we were to fill out ISO documentation for 2004, what would we put on this?

A. Well, we'd put on it --

Q. The two clear wells?

A. We'd put the two clear wells, we would put on there the one and a half million gallons of storage on Ellis that we constructed and completed in 2002, and I would think we would mention the fact that we have emergency interconnects with water district -- Cole County Water District No. 2 and 1.

Q. The emergency interconnect, let's talk about that.

A. Uh-huh.

Q. I'm presuming that there are separate emergency interconnect agreements between you and the districts.

A. With Cole County Water District 1 there is a formal agreement. With 2 there's an understanding between the two systems, and we are presently working on formal emergency usage agreements.

Q. In your agreement with No. 1, are there restrictions on how much water can be allocated to you on a

daily basis under emergency conditions?

A. I don't believe so.

Q. So they will give you an unlimited volume of water if you're suffering an emergency?

A. I don't imagine that's the case because who can guarantee an unlimited volume? But I don't know that the volumes are specified.

Q. Do you know how many gallons of water are available in No. 1?

A. I don't. Not off the top of my head.

Q. Do you know of any practical difficulties in acquiring volumes of water from those towers?

A. I know from conversations with the production supervisor in Jefferson City that -- that those tanks don't provide any hydraulic value to the Jefferson City system. The Jefferson City operation operated the water district's tanks and wells for -- I don't know -- I think since 1977 through 2002.

So they have a lot of knowledge on the capabilities of that system to serve the Jefferson City system. And it's their -- it's their knowledge that Christy and Vieth are the tanks that have value to the Jefferson City system.

Q. Using the figures that we're talking about for 2004, having access to the emergency interconnects, are you

suggesting then the company could include all those volumes for purposes of storage despite some of the practical difficulties?

A. No. I would not -- if we were providing this information to ISO today, I would not include Schott and Brazito.

Q. Okay. So we would have -- we would not include the No. 1 -- District No. 1 towers? I think these are the No. 2 towers.

A. These are District 2 facilities.

Q. Right. Number 1 towers we would not include on the list?

A. I don't know.

Q. You don't know. The No. 2 towers, the only ones we would count would be the Christy and Vieth towers?

A. That's correct.

Q. In addition to the 1.5 million dollars -- excuse me, that probably wasn't what it cost -- 1.5 million gallon tank on Ellis?

A. And the two clear wells.

Q. So we'd come up with -- check my math -- approximately 4.7 million gallons in volume?

A. Yes. Yes.

Q. Do you know right now what the daily consumption of water is for the Jefferson City district?

A. About 3.5 to 4 million gallons a day.

Q. It was about 4.6 back in 1998. Does that change your mind about the demand right now? At least according to the ISO documentation in paragraph 6. It says the maximum daily demands are estimated at 4.6 gallons per day.

A. Which -- which table are you looking at?

Q. It's right under Table 2.

A. Oh, okay. Yes. I believe that's reasonable. I -- I was estimating and --

Q. Okay. You think we're still in, you know, the 4.6 area or -- you know, there's been development, limited albeit, but there's been some extra demand for water, I presume?

A. Perhaps a little bit, but between '97 and today I wouldn't expect that to change very much.

Q. So what we're saying then is with the new ISO documentation hypothetical, we have about as much in available storage through our extra resources that would cover one day of demand?

A. No. Our -- you're talking about the Jefferson City systems storage --

Q. Right.

A. -- or are you including the facilities in Water District 2 as well?

Q. I was including the facilities in Water District 2.

A. The 4.7 million in storage?

Q. And then about 4.6 daily consumption, so --

A. The 4.7 in storage is about -- I'd say it's in the ball park of the average day pumpage in the Jefferson City operation -- average day demand in Jefferson City.

Q. All right. I think Commissioner Murray asked you about plans on adding more storage to the area and your answer I believe, was no, you had no intentions of adding more storage within the Jefferson City district?

A. I don't -- I don't recall her asking that question.

Q. Do you have -- do you have any plans to add to the storage within the Jefferson City district?

A. We've talked about it. We've -- our engineering department has discussed it. Right now we don't have any firm plans to add storage at this time.

Q. Does the company already own property where it could install new storage tanks?

A. It owns a pie-shaped piece of ground between two houses in a cul de sac.

Q. Do you know where that's located?

A. Behind Meek's Lumber. I don't know the street address.

Q. Are there pipes and mains already installed in that location?

A. There has to be, there's -- there are houses there that we serve.

Q. I mean mains that would be satisfactory enough to take care of the storage.

A. I don't believe so.

Q. There would have to be some improvements to the mains to cover that?

A. Yeah. You have to have a large enough diameter main so that you can fill it in the time you have to fill it. You know, you usually use your tanks for peaking purposes throughout -- during a day.

Q. And you'd rather not do that with a water hose. Is that what you're saying?

A. Rather not.

Q. Is there any other land in the Jefferson City area that the company owns where it could put a storage tank?

A. Well, it owns a parcel of ground near the Southwest Booster Station, but when you say is it a location where we could put a tank, we were -- we got a pretty resounding no on that from the community.

Q. And you had no idea of resuming and trying to go against that no. Is that what you're saying?

A. No. I mean, that was the -- that was the event that led to the location on Ellis where the tank that we just completed in 2002 is today.

Q. On page 11 you discuss -- on page 11 of your testimony you discuss the generator that's being installed that will provide power to either the new tank site -- the new tank site booster pumps, excuse me, or the Southwest Booster Station. Tell me how that will work.

A. Yeah. Well, the generator is there now. It's located at the tank site.

Q. It's a stationary generator or does it move?

A. It's mobile. It's currently at the tank site. It could be moved and connected to the Southwest Booster if for some reason we lost power there.

Q. How is it activated?

A. I'm not familiar with the details of how it's activated but --

Q. Let me go back. Does someone have to go out physically and turn it on?

A. It should be able to be activated remotely.

Q. And would that be done from the plant site or --

A. Yeah.

Q. So the operator at the plant would have the ability to detect the power problem at the tank site or the

booster station site?

A. Yes. He's able to -- he's able to see what's going at -- on at all our key locations in the distribution system from his computer screen. And he's able to communicate with those sites to start and stop pumps. And so I'm presuming that he's able to start and stop the generator remotely.

Q. Are there alarms attached to the power distribution system at the tank site as well so that --

A. Yes.

Q. -- the alarm will sound, the personnel will go to the remote activator and touch the button and the generator takes over?

A. He would -- yeah, if that's -- it that capability is there, he would do it from that location, yes.

Q. Now, if there is a problem elsewhere in the system, someone would have to physically go pick up the portable generator and move it; is that correct?

A. That's correct.

Q. And that would require a tractor-trailer of some sort, I'm presuming a fairly large piece of equipment?

A. It's already on a trailer.

Q. So the trailer --

A. Have to hook it to a truck and transport it to the other location.

Q. Electrical connections, how would it be connected to the other facilities?

A. It would have to be connected to a connection point already existing at the other location, but --

Q. And I'm presuming that those are installed?

A. Yes.

Q. Let's go to page 18 of your testimony just for reference. And you're talking about the emergency procedures the company will follow during a low-flow episode on the Missouri River.

And you didn't delineate those. And could you tell us what the company has in mind for emergency procedures if there is a low-flow condition on the Missouri River? And I'm presuming that would be below three feet -- when the river level reaches three feet; is that correct?

A. That's -- yeah, approximately three feet, yes.

Q. And what are the procedures?

A. Well, in that event we would already have this submersible pump installed.

Q. How would you know when to install it?

A. Well, we get -- just using the example last summer, we got notification that the Army Corps of Engineers was going to adjust the releases from Gavins Point and lower the river.

Q. So you anticipated that the river would go

down a certain time?

A. Sure. We had knowledge of when it was starting and when it was expected to get to three feet and so on. And so we had some time to transport the submersible pump from where it was to the Jeff City operation.

We created an apparatus that allowed it to be placed in the river and its discharge line attached to the barge and then hooked into the hard piping, if you will, of the intake system. You know, the river doesn't change so fast that you don't have time to react and implement this -- this temporary system of augmenting your intake capacity, so --

Q. Now, has the submersible pump been moved or is it still on location?

A. I don't know if it's still in Jefferson City or not.

Q. The characteristics of the pump, do you know how much it can pump per minute, per hour?

A. Yeah. It could -- it could easily do 11 million gallons a day, which is more than the entire intake facility that's there permanently can do or more than -- more than the plant can treat.

Q. Do you know what the flow condition of the river is today?

A. No.

Q. Let's go back to the emergency interconnects that we visited about. And I didn't ask you this. Are those emergency interconnects in any way influenced by the flow of the Missouri River? I know some districts have deep wells, some districts do not.

A. As far as I know, they are not.

Q. They are not influenced. I'm still a bit confused about the September 7th/September 14th incidents, incident, whichever one. Do you know how there could be only a trickle of pressure at Station No. 4 over on Ellis Boulevard -- I think that's the address -- and a trickle at the main station at the same time?

A. By "main station" you mean --

Q. That would be the one closest to your plant over on the corner of High Street and Bolivar Street if you're familiar with our street system.

A. No, I don't. That is the most perplexing piece of this whole discussion. Because our data on both of those dates show that in the Ellis area pressures were fine. I can't explain it.

MR. COMLEY: All right. Judge, I have no other questions for Mr. Kartmann.

JUDGE THOMPSON: Thank you, Mr. Comley.

Ms. O'Neill?

MS. O'NEILL: No questions, your Honor.

JUDGE THOMPSON: Mr. Snodgrass?

MR. SNODGRASS: No questions, Judge.

JUDGE THOMPSON: Mr. Cooper?

REDIRECT EXAMINATION BY MR. COOPER:

Q. Mr. Kartmann, let's start with the low river situation that you were discussing near the end of Mr. Comley's cross-examination. You described a temporary system that you would use in that event. Correct?

A. Yes.

Q. Are you familiar with any instances where a system similar to that was used on a more permanent basis in any other water systems?

A. Yes. The Meramec plant in the St. Louis County operation, which is one of our systems, it at one time had submersible intake pumps as permanent fixtures in its treatment facility.

Q. For several years?

A. Yes. For many years.

Q. Are you aware of any instance where water service has been disrupted as a result of low river levels here in Jefferson City?

A. I'm not aware of any.

Q. Based upon questions from Mr. Comley, you discussed both the Meek's Lumber site and then another piece of property that the company owns on Southwest Boulevard.

Correct?

A. Yes.

Q. What has been the -- let's start with those pieces of property. How would you describe the Planning and Zoning Commissions receptiveness to water tanks here in Jefferson City in regard to those sites?

A. Very unreceptive as far as those two locations are concerned. But they were very helpful in helping us secure the Ellis Boulevard site. It's not -- I guess it wasn't that the city, per se, that didn't like the tanks -- the sites, it was the response from the community.

Q. Right.

A. Yeah.

Q. And when you talk about the city being helpful, it was the city that helped work with you on the Ellis site as an alternative. Correct?

A. Right. It was with the city's help that we were able to finally find a site where we could build that tank, yes.

Q. How would you describe those -- the community's reaction to the construction of water tanks at the other two proposed sites?

A. Outrage.

Q. That Ellis tank, I think you mentioned that it has storage capacity of, what, 1.5 million gallons; is that

correct?

A. That's correct.

Q. Can you give us an estimate so that we can put it into context what kind of investment it took to build that tank?

A. Yeah. I believe that's in the case as one of our capital investments that we're seeking to get in rate base, but I believe it was about 2.2 to 2.4 million dollars.

Q. Now, while we're talking about that investment, I think Judge Thompson had asked you whether there were dollars associated with these Jefferson City fire suppression issues. Correct?

A. Yes.

Q. And I think you had answered in response to that as to the cost that would be required I think on one item in particular for the main replacement program or to replace the smaller mains. Correct?

A. Right. The $3.7 million was only in reference to small diameter mains.

Q. Now, in this rate case is there any proposal to make any additions to revenue requirement or to change the company's rates in relation to any sort of line replacement program?

A. There is not.

Q. So if we were to look at the reconciliation

sheet, for example, that's been prepared by the Staff, you wouldn't find a line item associated with any of these Jefferson City fire suppression issues. Correct?

A. Just the 40 hydrants we installed since the last rate case, if I understand your question.

Q. But there's no -- there's no dollars to be added or not added to the company's revenue requirement resulting from these issues. Correct?

A. No, there are not.

Q. In answer to questions from Mr. Comley, you had described I think in pretty good detail the power loss procedures at the Jefferson City plant. Do you recall that?

A. Yes.

Q. How do those procedures compare to power loss procedures at either other MAW systems, water systems or other water systems with which you might be familiar?

A. I believe they're pretty consistent.

Q. You did some description or provided some description of the water pressure monitoring equipment that is available to you. Could you for me again I guess, and focusing on that equipment, tell me what was available for you to review in regard to water pressures that the company would have had evidence of, I guess, on the 7th of September and the 14th of September?

A. Well, we have our computer system, which

monitors pressures at various points in the system from the plant to booster stations and so on. And that will produce a tabular output of pressures on five-minute intervals and it also produces a graphic trend which tells you on a continuous basis at any instant in time graphically what the pressures are at these various points where we're monitoring them.

Q. And what points are those that you're monitoring?

A. The plant affluent pressure, pressure of the water leaving the plant, the Bald Hill Booster affluent pressure, Shell Ridge Booster affluent pressure. We've got pressure recording occurring at the Southwest Booster on the suction and discharge side. The suction would indicate something about what's happening in what I called the plant zone, the zone of the system that's primarily and normally provided pressure and flow from the plant. Also there is graphical output on pressures and tank levels at the Ellis tank site.

Q. And for September 7th do you have readings I guess every five minutes?

A. Yes, I do. Yes.

Q. And on September 14th, I think you had told us that you're missing some, that there's a gap. And why was that -- why would that gap be created?

A. On the 14th the computer had a reading at 8:25 p.m. and then did not have another reading until 8:55 p.m. What that tells us is the computer was off line for a half hour. It doesn't tell us what the system was doing -- it doesn't tell us what the plant affluent pressure was doing for that half hour period.

The point I bring that -- the reason I bring that point up is that, as I indicated, when we have this loss in power because this breaker opens by design, when it's closed, the pump comes on immediately but the other equipment in the plant has to be restarted. And the operator -- that 30-minute interval indicates the time at which power was lost and the time -- the point in time at which the operator started the computer.

Q. So similar to the computer in my office, if I lose power, I've got to go through and --

A. Start --

Q. -- turn it back on?

A. Reboot it, yeah.

Q. Now, you mentioned again recently that a rough calculation of the cost involved to replace all the small diameter lines that were identified would be approximately 3.7 million. Correct?

A. That's correct.

Q. Okay. What is the current rate base for the

Jefferson City district?

A. Current rate base is right around $10 million.

Q. And what would be the proposed -- or what rate base does the company propose as a result of this case?

A. 11.8, approximately.

Q. Okay. What percentage increase in rate base would be reflected by that $3.7 million that would be associated with line replacement?

A. Over the 11.8?

Q. Yes.

A. It would be 31.4 percent.

Q. If MAWC were to make that investment?

A. That's correct

MR. COOPER: That's all the questions I have, your Honor.

JUDGE THOMPSON: Thank you, Mr. Cooper.

You may step down, Mr. Kartmann.

We're now at five minutes to 12:00, so I suppose we will take the noon recess at this time. When we come back, we will start with -- find my list -- we will start with Mr. Rennick.

MR. COMLEY: Judge, I would ask if possible, if we could have Assistant Chief Horn go first.

JUDGE THOMPSON: That's fine with me.

MR. COMLEY: He's on duty today

MR. COOPER: I have no objection to that. And, as a matter of fact, I will tell you I have no questions for Assistant Chief Horn. So if the Commission and the other parties do not, perhaps we could go ahead and release him.

MS. O'NEILL: I have no questions for Chief Horn -- or Assistant Chief Horn.

MR. SNODGRASS: Staff has no questions for Chief Horn either.

COMMISSIONER MURRAY: Nor do I.

JUDGE THOMPSON: Well, Commissioner Murray doesn't have any, I don't have any, so why don't we just let Assistant Chief Horn go.

MR. COMLEY: I'd be glad to do that. At this time I'd like to offer his testimony into evidence; however, I do not remember the exhibit number.

JUDGE THOMPSON: That's okay. I think I can find it.

COMMISSIONER MURRAY: 88.

MR. COMLEY: 88?

COMMISSIONER MURRAY: I believe.

MR. COMLEY: Your Honor, I'd move Exhibit 88 into evidence.

JUDGE THOMPSON: Any objection to the receipt of Exhibit 88?

Very well. The same is received and made a part of the record of this proceeding.

(Exhibit No. 88 was received into evidence.)

MR. COMLEY: And the witness is excused?

JUDGE THOMPSON: The witness is excused.

So we will start then with Chief Rennick when we get back from lunch after all. Are there questions for Chief Rennick?

MR. COOPER: Yes.

JUDGE THOMPSON: Very good. We will see you then at 1:15. We are in recess.

(A recess was taken.)

JUDGE THOMPSON: Mr. Rennick, come on up. Spell your last name for the reporter, if you would, sir.

THE WITNESS: Last name is R-e-n-n-i-c-k.

(Witness sworn.)

JUDGE THOMPSON: Please take your seat, sir.

You may inquire, Mr. Comley.

MR. COMLEY: Judge, I understand that we adopted some abbreviated procedures at the beginning of the hearing about interviewing on direct our witnesses and I was going to proceed in that way, if I recall --

JUDGE THOMPSON: Just move his exhibits in and you sit down.

ROBERT RENNICK testified as follows:

DIRECT EXAMINATION BY MR. COMLEY:

Q. Let me ask you before I do that, Chief Rennick, are there any additions or corrections to your Direct Testimony?

A. Yes. I believe there was one clarification, if you will.

Q. Let me direct you to page 3, line -- I think it's 15.

A. Yes. It should read --

MR. COOPER: Of which?

MR. COMLEY: The Direct. That would be Exhibit 27.

BY MR. COMLEY:

Q. And what was the correction, Chief?

A. The correction is to clarify what the wording there is now. It should say the on-duty assistant chief.

Q. And aside from that correction, do you have any other additions or corrections to either your Direct or Surrebuttal Testimony that was filed in this case?

A. I don't believe so.

MR. COMLEY: Judge, on the strength of his affidavits and his testimony, I would move for the admission of Exhibits 27 and 87 as corrected.

JUDGE THOMPSON: Thank you, Mr. Comley.

Do I hear any objections to the receipt of

Exhibit 27 or Exhibit 87?

MS. O'NEILL: No, your Honor.

JUDGE THOMPSON: Hearing no objections, Exhibits 27 and 87 are received and made a part of the record of this proceeding.

(Exhibit Nos. 27 and 87 were received into evidence.)

MR. COMLEY: Chief Rennick is offered for cross-examination.

JUDGE THOMPSON: Thank you.

Commissioner Murray?

COMMISSIONER MURRAY: Thank you.

QUESTIONS BY COMMISSIONER MURRAY:

Q. Good afternoon, Chief.

A. Good afternoon.

Q. I'm dropping things here.

I understand that you're recommending that the Missouri Commission Staff examine the back-up power systems for pumping operations and -- rather, investigate that and investigate the projected storage capacity; is that correct?

A. Yes. Those are two items that I have a concern about.

Q. And, to your knowledge, has our Staff done any kind of an investigation concerning those issues?

A. I'm not sure.

Q. And I would like to --

COMMISSIONER MURRAY: Judge, at this point I would like to ask counsel for Staff that question, if I may.

JUDGE THOMPSON: You certainly may. Do you want him in the chair?

COMMISSIONER MURRAY: No. I'd like to ask him if Staff has taken a position on these issues or has filed any testimony?

MR. SNODGRASS: Commissioner, the Staff has really taken no position, to my knowledge, on this issue. If you have some questions regarding what Staff has done in the nature of any investigation, I'd be glad to put Mr. Merciel on the stand and have him respond to you.

COMMISSIONER MURRAY: All right. Thank you.

BY COMMISSIONER MURRAY:

Q. And, Chief Rennick, how many water mains are you claiming need to be replaced?

A. I can't give you an exact number. I -- what we've done is gone through the water systems map and highlighted water mains that are below the six-inch diameter. And there's quite a few. I think the number was offered by the water company this morning, but I don't remember what that number was.

Q. And that was in relation to the -- I assume extra costs of $3.7 million?

A. I think they were talking somewhere in the neighborhood of about 8,000 feet, slightly a mile and a half or so of four-inch or smaller.

Q. And do you agree with Mr. Kartmann that where there are small mains existing, that larger mains are accessible in close proximity?

A. I will not give you a definitive answer as to yes or no. I do know that we can make access to some of the larger mains, the sixes and the eights, but it will be as much as several blocks away.

Q. And what do you do when that is the case, when it's several blocks away?

A. Depending on the nature of the fire, the size of the building, we do have to make that lay stretch of line to bring the water in. Most of these areas that we're talking about are relatively the older story, story-and-a-half, two-story houses.

If you're familiar with Jeff City, let's say it's south of Dunklin Street area up around Employment Security is one area that I would think about, back up toward Adams Street, back up toward, oh, Woodlawn. Some of those smaller -- you know, they've been there 75-year type development houses, 50-year development.

My concern is primarily that as those areas are either upgraded by newer residential or become

redevelopment areas, that adequate water is there now for whatever occurs, but more importantly, that the systems will handle what comes in the future.

Q. But in terms of safety as the structures currently exist, you're not claiming that we've got an unsafe situation today, are you?

A. It may not be unsafe in the sense of an immediate hazard or immediate threat, but in the scale of if we have something major, multiple houses going in the neighborhood, for example, then we're going to see a tax on the water. The only alternative at that point is to call plant and have them up the pressure, which then relates to more water coming into the system and, thus, allows us to have a little more water at the scene.

Q. And that would be possible through the connection with the Public Water Supply District, would it not?

A. That is one method. What I was referring to is that by calling the plant, the plant can either put on additional pumps -- they have four or five pumps that they can use to supply pressure out into the system.

I think they normally use three or four pumps for normal consumption and they normally have one bigger pump that they have in the past reserved, for lack of a better term, they call a fire pump. And if they have a

major flow, major fire in the downtown or in the system, they can kick that on and throw more water into the system then normally occurs.

Q. The area that you talked about a moment ago south of Dunklin over toward Adams Street --

A. Uh-huh. And that's not the only place, but that was an example, ma'am.

Q. But that area also a little further on includes a hospital; is that right?

A. Yes, it does.

Q. And what's the situation there or --

A. The water system there is -- it sits on -- the hospital sits on the ridge. That is the ridge line that I would traditionally draw your attention to as being the difference between the traditional plant side of the system and what is referred as the tower side of the system. That ridge runs over to Swifts Highway and across Southwest and so on to the west.

On one side of that ridge you have basically a lower pressure of water by virtue that it was fed from the towers from the water districts in many years past or years past. The plant side of the system feeds that area as well, but you're at a point where you're starting to become a balanced system, the elevations are basically the same.

Then you stick a three-, four-, five-story

building on top of that. Every foot you go up, you lose pressure. So by the time you get to the top of the building, your water pressure, even though it is coming out at 90, 95 pounds at the plant, has now started to diminish. You're down to 30, 40 pounds of pressure.

We encountered a problem at that facility several years ago when we had a fire down at the Juvenile Detention Center. Employees at the hospital came over early morning, five o'clock or so said, Can you put the fire out so we can get back to normal business at the hospital, we need to do laundry. And so from that perspective, there is some inadequacies in being able to commute water into that area.

Q. And you would attribute that to size of the mains in that area?

A. There's a number of factors. Obviously the topography of the city being one of the major ones. But, again, primarily the system -- and my perception is we're taking a water system that dates back into the early 1900's and really what was primarily put in the ground is still in the ground. And that old system is feeding newer systems or newer development. And obviously the bottlenecks, in my opinion, would be the older system.

Q. And let me switch to your recommendation as to planning for severely low river stages with extra storage

for pumping capacity. Is that recommendation based on the possibility of a worst case scenario?

A. No. I think it's based on what we normally expect to see in Jeff City. Today -- well, I should say last night at six o'clock the river stage reported by Channel 13 was 4.2 feet. In February it's not unusual to see it down into the 2- and 3-foot level or below.

The water lines that extend out into the river are obviously subject to the loss of water, ice jams and so on. And my math I think was that we were only able to produce and store the daily capacity or the daily consumption of the city. Somewhere in there I don't see fire protection as a factor.

COMMISSIONER MURRAY: All right. Thank you.

JUDGE THOMPSON: Thank you, Commissioner.

Ms. O'Neill?

MS. O'NEILL: No questions, your Honor.

JUDGE THOMPSON: Mr. Snodgrass?

MR. SNODGRASS: No questions, Judge.

JUDGE THOMPSON: Mr. Cooper?

MR. COOPER: Yes, judge.

CROSS-EXAMINATION BY MR. COOPER:

Q. Chief Rennick, you just mentioned some river levels in response to Commissioner Murray's questions. Is the demand -- are the demands on the system higher or lower

during the winter, if you know?

A. I would have to make the assumption that the demands would be lower because that you're not watering your yards, washing your cars and so on. However, given the type of consumer that is using the water, whether it's Unilever or some other type manufacturing facility, would have some impact on their year-round production. As they're being added to the system, that consumption continues to climb.

Q. But in terms of domestic type uses, the watering the lawn, those type of things, those are primarily summer activities, aren't they?

A. I would think that would be primarily your variables.

Q. Now, you had mentioned in response to a question from Commissioner Murray what you thought you remembered in terms of the length of the mains that are less than six inches. And I think you said 8,000; is that correct?

A. I think I was quoting Mister -- whatever your --

Q. Mr. Kartmann?

A. Yeah.

Q. So your only knowledge would be based upon what Mr. Kartmann would have said this morning. Correct?

A. As far as length, yes.

Q. And if he might have said 85,000, then that would have been the number that you would have utilized instead of 8,000. Correct?

A. His system.

Q. Now, you have testified previously in a rate case before this Commission, haven't you? Well --

A. I have submitted testimony.

Q. Yeah. That was going to be my clarification.

You've filed testimony in the last United Water Missouri case, didn't you?

A. I believe the last two.

Q. Last two.

Now, I believe in your Direct Testimony you talk in terms of hydrant placement being a key factor in the city's insurance rating. Correct?

A. Yes.

Q. Okay. And I believe you also in your Direct Testimony state that hydrants cannot be placed on three-inch lines or smaller and on four-inch lines -- or that four-inch lines provide inadequate fire flows; is that correct?

A. Based on several sources that were quoted earlier today and my knowledge, four-inch lines do provide minimal flows, they're not adequate flows and they are not what I would expect to see being used today as far as main extensions or expansions of the system.

Q. Now, earlier today did you hear Mr. Kartmann estimate or provide an estimate of the costs to replace all the lines you've identified of $3.7 million?

A. If he was looking at the map that I had indicated earlier, yes.

Q. Why don't you assume with me for a moment that that cost would be approximately $3.7 million. Can we do that?

A. Sure.

Q. Okay. If that cost of replacement were born by the water company, would you agree with me that those costs would eventually be recovered from Jefferson City ratepayers?

MR. COMLEY: I'll object to that to the extent he may not have the foundation for rate-making in this Commission.

JUDGE THOMPSON: Is your objection that you don't think that the Chief can answer the question?

MR. COMLEY: I object that it would be beyond the scope of his expertise to explain the rate-making ability or the rate-making decisions of the Commission.

JUDGE THOMPSON: Well, I'm going to allow him to answer if he can. The objection's overruled.

BY MR. COOPER:

Q. Let me restate the question in this fashion.

Do you have any idea how those costs would be recovered or if they would be recovered if the water company would invest the $3.7 million in line replacement?

A. As a customer and consumer of the company, I eventually would pay for it.

Q. Do you have any idea what size rate increase Jefferson City ratepayers might be willing to pay to support a line replacement program such as the one you've proposed?

A. I have no clue.

Q. Do you have any percentage in mind that would be too much?

A. I have no idea.

MR. COOPER: Your Honor, I'd like to mark an exhibit, if we could.

JUDGE THOMPSON: Absolutely.

MR. COOPER: I've got too many pages in my exhibit list. Would this be 133?

JUDGE THOMPSON: This would be 133.

MR. COOPER: Okay. I would describe this as Sheet 15 of the Jefferson City tariffs.

(Exhibit No. 133 was marked for identification.)

BY MR. COOPER:

Q. Chief Rennick, do you have before you what's been marked as Exhibit 133?

A. Yes.

Q. Are you aware that the company's tariffs that have been approved by this Commission describe a company duty with regard to fire hydrant service?

A. Well, I'm reading it here, but apparently there is such a thing.

Q. Okay. And, in particular, are you looking at paragraph 48?

A. Okay. That sounds reasonable.

Q. Would you agree with me that paragraph 48 states as follows: The company shall have no greater duty with regard to fire hydrant service or private fire fighting service than to supply only such volumes of water at such pressures as may be available in the normal operation of the water works facilities?

A. That's what it reads.

MR. COOPER: Now, your Honor, I'd like to mark a second exhibit, if we could.

JUDGE THOMPSON: Absolutely.

MR. COOPER: I assume 134?

JUDGE THOMPSON: 134.

MR. COOPER: And this will be Sheets 18 through 20 of the Jefferson City tariffs.

(Exhibit No. 134 was marked for identification.)

BY MR. COOPER:

Q. Chief Rennick, do you have before you what has been marked for identification as Exhibit 134?

A. Yes.

Q. Are you aware that the company's tariffs provide a process for the replacement of mains when the city decides to have hydrants placed where lines are smaller than six inches in diameter?

A. No, I wasn't.

Q. Okay. If you could, let's look at 2B -- sub paragraph 2B on Sheet 18. Would you agree with me that that subparagraph states as follows: Where pipeline installations are required to carry out an order of the City of Jefferson to install public fire hydrants where existing mains in the opinion of the company are inadequate to provide fire flows to such hydrants, the company will install such mains at the cost of the City of Jefferson and will install such hydrants at the cost of the company and will be maintained by and at the expense of the company? Is that an accurate reading of that subparagraph?

A. That's what it reads. If you would interpret that for me, please, though. Does this say the city would have to pay for the main and the company would pay for the hydrant?

Q. I certainly would interpret it that way, but I

think that we may write more about that in a brief somewhere along the way, so --

A. Okay.

Q. -- I'll leave it at that for the time being. That's all the questions I have.

A. Then would you want the answer to that then?

Q. I think the only question on the table was whether that's what that tariff sheet stated in 2B. Mr. Comley's making adequate notes I think to let you finish that up, so we'll go from there.

MR. COOPER: I would offer Exhibit 133 and 134.

JUDGE THOMPSON: Any objection to the receipt of Exhibits 133 or 134?

Hearing no objections, Exhibits 133 and 134 are received and made a part of the record of this proceeding.

(Exhibit Nos. 133 and 134 were received into evidence.)

JUDGE THOMPSON: Mr. Comley?

REDIRECT EXAMINATION BY MR. COMLEY:

Q. Chief Rennick, just a few in redirect. There were questions from Commissioner Murray about the mains and -- the small diameter mains and their proximity to larger mains and usefulness they would have in fire

protection.

Let me ask you this. Is it your estimation that larger mains are in close enough proximity to the narrower mains in the areas you described in your testimony such that there is adequate fire flow and fire protection in that area?

A. I think it is below what it should be.

Q. Commissioner Murray also asked you questions about the nature of a threat to public safety.

Let me ask you this. Is it your opinion that there is an imminent threat to public safety possessed by the condition of the narrow mains?

A. Not immediate, but there is a long-term problem, a long-term concern that it will develop.

Q. As part of your testimony, you talked about having an investigation into the program and into the narrow mains and also to ask the Commission to implement a program of replacing those mains. Had you come up with a time line on how long it would take for those replacements to occur?

A. I would not be offended by a program that would take 10 or 15 years to accomplish given the amount of mains that was quoted as far as distances and the like. This is a long-term issue. We're here to be here for a long time and this system has been here a long time.

Q. Let me direct you again to the Exhibit 134 and

the tariff involving installation of public fire hydrants after February 1, 1970. First, you testified that you had no knowledge of the tariff. Do you know whether or not the City of Jefferson itself during the time that you've been fire chief has ever directed Capital City Water to install a particular improvement to a main or a new main?

A. Not to my direct knowledge.

MR. COMLEY: Thank you. That's all I have.

JUDGE THOMPSON: Thank you, Mr. Comley.

Thank you very much for your testimony, Chief Rennick. You are excused.

THE WITNESS: Thank you.

JUDGE THOMPSON: Mr. Kartmann?

COMMISSIONER MURRAY: Judge --

JUDGE THOMPSON: Yes, ma'am.

COMMISSIONER MURRAY: -- may I ask Mr. Merciel a couple of questions on this issue?

JUDGE THOMPSON: You absolutely may.

Mr. Merciel, it's your turn. Please spell your last name for the reporter.

THE WITNESS: M-e-r-c-i-e-l.

(Witness sworn.)

JUDGE THOMPSON: Please take your seat. There's no one here to tender you for cross-examination so I will.

Commissioner Murray.

MR. SNODGRASS: Judge, quite to the contrary, I am here and I will tender Mr. Merciel for cross-examination.

JUDGE THOMPSON: I apologize, Mr. Snodgrass.

MR. SNODGRASS: Thank you, sir.

COMMISSIONER MURRAY: You were invisible for a moment, Mr. Snodgrass.

MR. SNODGRASS: Story of my life.

JAMES MERCIEL, JR. testified as follows:

QUESTIONS BY COMMISSIONER MURRAY:

Q. Thank you for taking the stand to answer a couple questions I have.

A. Certainly.

Q. In your testimony you did file in this case regarding general operations and quality of service, you stated that you are familiar with the company's overall operation of its water systems and its sewer system; is that right?

A. Yes. Water system. They don't have a sewer system here.

Q. Okay.

A. Or at least in Jefferson City they don't, right.

Q. But over the whole company you are?

A. Yes. Uh-huh.

Q. And you indicated in your testimony that inspections of the company's systems are periodically conducted by individuals from the water/sewer department under your direct supervision --

A. Yes.

Q. -- or by you?

In order to evaluate the conditions of the company's facilities, evaluate the company's operation, operation of the facilities and review the various records --

A. Yes.

Q. -- is that right?

A. Uh-huh.

Q. In your periodic inspections, do you look at things like the adequacy of the size of mains and the things that Mr. Rennick has talked about as concerns?

A. Well -- well, I'd have to say we don't really get into the detail of -- or I should say we don't get into quite that much detail of every -- every aspect in every part of the company system.

Really what I look for in inspections is to see that the company does have records. And, you know, we don't really do it like you might think of an audit, like, for example, fire hydrant maintenance. We don't go through

and review each and every record they have of all their fire hydrants. We do look to see that they do have records.

Obviously if something pops up at us for one reason or another, be it a complaint or something we might happen to notice, you know, we can take a look at that. But kind of anticipating on this issue, if we're talking about the four-inch mains, we don't go took at the flows of each one of those on our own.

Q. If you thought that there was an area in which the mains were not adequate for fire service, would you indicate a concern there?

A. If I thought so, yes, of course. And to great extent we depend on customer complaints or complaints from the city or from the fire department. We have before, you know, we can certainly sit down on an informal basis at a meeting or go out and flow hydrants. You know, we do that -- I wouldn't say regularly but we've certainly done it before. And if there are concerns that we need to get involved with, then yes, we absolutely do.

Q. Okay. So fire protection issues are not issues that you just don't look at; is that accurate?

A. Well, what I'm saying is we just don't look at every -- like, we don't review each and every hydrant in the company system. There's too many in the state. You know, we just really can't take the time to do that. But we can

focus on problem areas as they come to our attention.

Q. That's what I wanted to know.

COMMISSIONER MURRAY: I believe that's all, Judge. Thank you.

Thank you, Mr. Merciel.

THE WITNESS: Yes.

JUDGE THOMPSON: Mr. Comley?

MR. COMLEY: No questions, thank you.

JUDGE THOMPSON: Ms. O'Neill?

MS. O'NEILL: Yes. Thank you.

CROSS-EXAMINATION BY MS. O'NEILL:

Q. Mr. Merciel, based on those periodic reviews that you do of the Jeff City system, do you believe that it is, as far as you know, providing adequate fire protection?

A. My answer would be yes. They do have the hydrants, they maintain them. To my knowledge, if there's a problem, you know, they'll go fix them. They do have some replacement programs. I know they work with the city on trying to coordinate and economize on their main replacement programs. I know that they're doing that type of work. My answer was that doesn't tell us, you know -- doesn't identify specific problems that may be out there.

Q. But what --

A. I know that generally the company is doing that type of work.

Q. And once those problems are identified, your department makes sure that the company's taking care of those?

A. Yes. If we have a complaint or if we know of some specific problem, then yeah, we can -- we can and do follow up on things like that.

Q. Do you get a lot of complaints in this area in Jeff City regarding this company about fire protection?

A. No. No. I -- I -- I think it's -- it's been an issue before. In fact, I recall years ago we had a meeting at City Hall, in fact, that was the one time I think I met Chief Rennick. He may not even remember it. We had a meeting in City Hall and I'm pretty sure it had to do with probably fire protection and maybe other matters in the distribution system. You know, the issue comes up from time to time, but I wouldn't say it's been a problem.

MS. O'NEILL: Okay. Thank you. No further questions.

JUDGE THOMPSON: Thank you, Ms. O'Neill.

Mr. Cooper?

CROSS-EXAMINATION BY MR. COOPER:

Q. The meeting you just referred to with Chief Rennick, approximately how many years ago would you say that took place?

A. Oh, man. Double digits. I don't know. Many

years ago.

Q. Ten plus years?

A. Yeah. More than 10 years ago.

Q. Have you had any meetings related to fire protection since Missouri-American has owned the Jefferson City system with Chief Rennick and the city?

A. Not that I've been involved with. There may have been meetings with other people or -- I don't believe I've had any meetings or issues that have come up over fire protection.

Q. You're not aware of any complaints that have been raised to you or presented to you?

A. That's correct. I'm not aware of any.

MR. COOPER: Okay. Thank you.

JUDGE THOMPSON: Thank you, Mr. Cooper.

Mr. Snodgrass?

MR. SNODGRASS: Mr. Merciel I don't believe needs any further questioning. He's done his usual stellar job. No questions.

JUDGE THOMPSON: Thank you. Please accept my apologies for overlooking you.

MR. SNODGRASS: That's quite all right.

JUDGE THOMPSON: You may step down, Mr. Merciel. I think we're going to hear from you again in the not too distant future.

I think we are now ready for Mr. Kartmann on the issue of New St. Joseph Plant Capacity Costs. Am I correct?

I will remind you, Mr. Kartmann, you're still under oath.

You may inquire, Mr. Ciottone.

FRANK KARTMANN testified as follows:

CROSS-EXAMINATION BY MR. CIOTTONE:

Q. Mr. Kartmann, your testimony, your exhibit has been previously offered and received into evidence; isn't that correct? And it's a homogenous exhibit containing your responses on all of these issues?

A. Yes. That's correct.

MR. CIOTTONE: Your Honor, I'd like to offer -- not offer but number and lay a foundation for an exhibit that then can be used -- that I plan to use with Mr. Merciel but I need Mr. Kartmann to lay the foundation.

JUDGE THOMPSON: Absolutely. That will be 135.

MR. KRUEGER: Your Honor, I would like to object to various portions of Mr. Kartmann's testimony regarding excess plant capacity. I believe his previous testimony was offered on other issues and this is the first time that he's testified in regard to this issue and there are some portions of that that I want to object to.

JUDGE THOMPSON: Okay. Let's see. Let me think how we should do that procedurally.

I think his exhibit has been offered and has been received, so I think I will take your objection as essentially a Motion to Strike. If you would give me a list of pages and line numbers of the matter that you would like to see stricken, then we can let everybody go back and forth on that topic.

MR. KRUEGER: That will be fine, your Honor. Thank you. The portions that I would like to have stricken are page 21, lines 1 to 12; page 22, lines 14 to 25, and page 23, line 23 to page 24, line 4.

MR. CIOTTONE: What was page 23?

MR. KRUEGER: The third one was page 23, line 23 to page 24, line 4. Each of those is just one question and one answer.

JUDGE THOMPSON: When I look at 23 to 24, it stops right in the middle of an answer. I have a question that starts at the bottom of 23 on line 23 and continues to line 14 on page 24. Didn't you say line 4?

MR. KRUEGER: I think I did and I was mistaken on that. I should have said line 14.

JUDGE THOMPSON: You meant 14. Okay. Very well.

MR. KRUEGER: The basis for my objection is

that this is hearsay, there's no proper foundation for it. Mr. Kartmann testified that he has adopted the comments of John Young. And his testimony from page 20 beginning at line 17 all the way over to page 25, line 5 is simply lifted verbatim from the Surrebuttal Testimony that Mr. Young filed in the last rate case, Case No. WR-2000-281. So those are not the statements of Mr. Kartmann, but of Mr. Young.

And, consequently, I believe that there's no foundation for this testimony and that it's hearsay. I can go into each one specifically, if you'd like.

JUDGE THOMPSON: I think that's sufficient. Let me take a look at it.

I don't think it's unusual to have witnesses adopting the testimony of other witnesses in those proceedings.

MR. CIOTTONE: Yes, your Honor. It may be verbatim, in fact, but as long as Mr. Kartmann is swearing under oath that this is his testimony at this time and is willing to be cross-examined on the purport of the testimony including the detail, he's certainly qualified to do so.

JUDGE THOMPSON: I'm inclined to agree with Mr. Ciottone, Mr. Krueger, unless you can show me the error of my ways.

MR. KRUEGER: I'm not objecting to the portions where Mr. Kartmann merely expresses his opinion,

but I am objecting to the portions that are based upon personal knowledge, statements of what we did, which I would assume means he and others.

And also, in particular, in regard to the document that I think Mr. Ciottone is getting prepared to offer, the Comprehensive Planning Study from 1994. That document has not been -- has not been offered, has not been presented in this case at all.

JUDGE THOMPSON: Is that not part of the record of the 281 case?

MR. KRUEGER: It is part of the record in the 281 case.

JUDGE THOMPSON: So he could simply request that we take notice of it.

MR. KRUEGER: But that document, as I understand it, it was prepared in 1994 at a time when -- by Missouri-American Water Company --

MR. CIOTTONE: If I may save you some time, I don't plan to introduce that.

MR. KRUEGER: Okay.

MR. CIOTTONE: The Comprehensive Planning Study? I'm not going to put that in.

MR. KRUEGER: Okay. That will eliminate my objection in regard to that, but I think that there are statements that are based upon personal knowledge of the

declarant here that Mr. Kartmann does not have personal knowledge of.

MR. CIOTTONE: I think, your Honor, when Mr. Kartmann speaks, for example, on page 21, line 3 he says, We undertook a rigorous analysis of system demands, "we" when Mr. Young says it and "we" when Mr. Kartmann endorses it by saying it himself, he's talking of the collective "we" meaning the company and all of its engineering, resources and experts. And he is speaking on behalf of the company and willing to stand the test of legitimacy of this.

If he were saying -- if on cross-examination he were to hold up his hands and say, I can't validate the legitimacy of that, you'll have to ask Mr. Young, then there might be some basis to what Mr. Krueger is saying, but I think as long as Mr. Kartmann is swearing --

JUDGE THOMPSON: I'm going to overrule the objection with respect to the excerpt on page 21 because by adopting it, it's not an out-of-court statement, it's an in-court statement.

Now, with respect to the excerpt on page 22 --

MR. CIOTTONE: And that is, in fact, a summary of the 1994 study and that was the basis and it is an explanation of how the analysis was performed that derived the capacity that should have -- that the company believed

was appropriate at the time the plant was constructed.

All of those facts and recitations in there are as is true then as they are now. And, frankly, I don't think Mr. Merciel would disagree with any of that. He thinks this is not the way it should be --

JUDGE THOMPSON: I don't know if he would or not, Mr. Ciottone, but I do think the references to Mr. Lee get into hearsay. For example, saying Mr. Lee also explicitly agreed with the company's 2009 demand projection is certainly hearsay.

MR. CIOTTONE: Well, Mr. Lee did that on the record and that is a matter of record and it was also --

JUDGE THOMPSON: Is that in the record in the other case?

MR. CIOTTONE: Yes.

JUDGE THOMPSON: Why don't you ask us to take notice in that case of wherever that appears?

MR. CIOTTONE: You mean you would like me to give you specific references to the preceding transcript where that is?

JUDGE THOMPSON: If you can find them.

MR. CIOTTONE: Well, I cannot find them in this short period of time. And, frankly, it's not that important to my case.

JUDGE THOMPSON: You can put them in your

brief, can't you?

MR. CIOTTONE: Certainly.

MR. KRUEGER: Do I understand, your Honor, that all testimony regarding this subject that appears in that case may be cited in the brief in this case?

JUDGE THOMPSON: Well, I'm simply trying to work my way through your objections. Okay?

MR. KRUEGER: Okay.

JUDGE THOMPSON: You objected on the basis of hearsay. He's adopting this testimony as though he were saying it himself. So the testimony's not hearsay. It becomes instead his testimony as though he spoke it on the stand.

Now, where he's telling me what Mr. Lee thinks about something, that's hearsay because Mr. Lee is not here, it's an out-of-court statement that he's incorporating into his testimony. Right? So insofar as he's telling me what Mr. Lee said on some other time and occasion about something, then that is objectionable as hearsay.

However, Mr. Ciottone's telling me that, well, Mr. Lee said that on the record in another case, in which case he doesn't have to get it in through the testimony of Mr. Kartmann, he can simply request that the Commission take notice of its own records and it would come in that way. All right?

MR. KRUEGER: I think I understand that. My question is then, if I find something in reviewing the transcript of the previous case from, say, Mr. Merciel's testimony that touches on this same subject, can that come in because that's also part of the Commission's own record?

JUDGE THOMPSON: If you request the Commission to take notice of it, it certainly can.

MR. KRUEGER: Then in regard to the testimony of Mr. Lee, I guess I'd inquire from Mr. Ciottone which testimony he is asking the Commission to take notice of.

MR. CIOTTONE: Frankly, at this point I don't care about what Mr. Lee said. It wasn't apparently persuasive on the Commission in the last case, I didn't think it was controverted in this case, it is not critical to my position in this case and if it would make Mr. Krueger happy, let's go ahead and strike it.

JUDGE THOMPSON: Okay. Then we'll strike the question and answer that we find on page --

MR. CIOTTONE: Only that part with respect to Mr. Lee.

JUDGE THOMPSON: Okay. So starting on line 20, external support is provided by Mr. Lee's absolute agreement, those two sentences. Right?

MR. CIOTTONE: I have no problem with that being stricken.

JUDGE THOMPSON: Very well. Those two sentences shall be struck -- shall be stricken, whatever the appropriate verb form actually is.

Now then, let's take a look at the third one.

MR. CIOTTONE: Your Honor, that seems to be a factual recitation of, in fact, how est--

JUDGE THOMPSON: I agree. I'll overrule the objection with respect to that excerpt.

So are we done?

MR. KRUEGER: Yes, your Honor.

JUDGE THOMPSON: Thank you.

MR. CIOTTONE: If I may then with your permission, your Honor, Exhibit 135, if I may pass that out, please.

JUDGE THOMPSON: You may.

MR. CIOTTONE: And may I approach?

JUDGE THOMPSON: You may. How would you describe this, Mr. Ciottone?

MR. CIOTTONE: This is recent information regarding 2003 maximum day pumpage in St. Joe.

JUDGE THOMPSON: Okay. Thank you.

(Exhibit No. 135 was marked for identification.)

BY MR. CIOTTONE:

Q. Mr. Kartmann, let me hand you what has been

marked as Exhibit 135 and I'll ask you to describe what it is, please.

A. This is an e-mail from Tom Simmons, an employee in our St. Joseph operation, wherein he's listing the four highest pumpage days on our records at the time of 12/22/03 for the year 2003.

Q. Can you, from your personal knowledge, say that this information is indeed on the company's records?

A. Yes, it is.

MR. CIOTTONE: All right. Thank you. I tender Mr. Kartmann.

JUDGE THOMPSON: Do you want to put 135 in?

MR. CIOTTONE: Well, I can offer it now, but I would have expected objections until I used it with Mr. Merciel but I'll offer it now.

JUDGE THOMPSON: Any objections to Exhibit 135?

MR. KRUEGER: No objection.

MS. O'NEILL: No objection.

JUDGE THOMPSON: Exhibit 135 is received and made a part of the record of this proceeding.

(Exhibit No. 135 was received into evidence.)

JUDGE THOMPSON: Commissioner Murray?

COMMISSIONER MURRAY: Thank you.

QUESTIONS BY COMMISSIONER MURRAY:

Q. Good afternoon, Mr. Kartmann.

A. Good morning, Commissioner -- or afternoon. I'm losing track.

Q. It is afternoon. Can you tell me what is the significance of the August 8th peak flow date?

A. The significance is that that represents 22.51 million gallons pumped on that date. And if you add to that in plant water use that's necessary for washing filters, diluting chemicals, operating certain pieces of equipment that require water, you end up with usage on that day in excess of 23 million gallons.

And Mr. Merciel has testified that he believed that a 23-million gallon a day plant would have been appropriate basing that on recent years -- years recent to the last Missouri-American rate case that took place in 2000. That being the case, had we only built for capacity of 23 million, then this year on that date -- actually all four of those dates we would not have had enough water to serve our customers' demand.

Q. And in the last rate case Mr. Merciel based his demand projections on the historical demands; is that correct?

A. My recollection is that he based it on several -- I guess a few number of years just prior to the plant going on line. And looked -- just looked at what the

peak days had been in that period, didn't do any statistical analysis or any sophisticated projections but simply looked at the recent peak days in the years immediately preceding the plant going on line. And he said, well, based on that, you've only pumped this much so 23 MGD ought to be appropriate.

Q. How long have you been in the water industry?

A. I started in the water industry in 1989.

Q. And have you had experience with regulatory issues in the water industry over that period of time?

A. Yes, I have.

Q. And, in your opinion, what is the normal -- or I hate to use the word "normal."

What would ordinarily be considered in looking at a reasonable amount of capacity when entering into new construction?

A. If you'll give me a moment, I've got some text I'd like to refer to. Just to answer that by way of example, for example, the Commonwealth of Virginia Water Works Regulation Section 5.08 states that a water utility should initiate expansion plans when demand reaches 80 percent of rated capacity; in other words, the margin of safety falls below 20 percent.

There's other examples. The American Water Works Association Journal article by Mr. Peter Macey

discusses the concept of appropriate margin of safety, recommended an appropriate basis for planning is to maintain at least a 10 percent margin of safety between supply and demand at all times.

Regulatory support for an appropriate planning horizon is also shown through the Connecticut Department of Utility Control where in Section 16-11-79 of their documents indicates the design and construction of the utility's water plant shall conform to the good standard engineering practice, including the minimum standards of the American Water Works Association, and shall be designed to make reasonable provisions for the company's water supply requirements for a period of at least 15 years.

MS. O'NEILL: Your Honor, for the record, it appears that Mr. Kartmann is reading from documents that are not in evidence. And I don't know that I want to make a hearsay objection necessarily because I think there may be an exception, but I would like to clarify whether or not those have been identified and whether he's reading actual documents or if he's reading from a different document citing those documents.

JUDGE THOMPSON: Well, I think you can ask him that when you have your opportunity to cross him.

Please proceed.

THE WITNESS: May I continue my answer? I

just gave those as examples of what other regulatory bodies perceive as appropriate planning for growth and construction of water treatment facilities to meet that growth.

BY COMMISSIONER MURRAY:

Q. So sometimes the consideration is in terms of a period of years and other times it's in terms of a margin of safety?

A. Yeah. And the point I'm trying to make is that at the time the plant goes on line, the margin of safety implies that you've designed that plant to go on line today and perhaps it has greater capacity than the immediate demand on the system, but that the idea is that you build it now and it will last for some period of time before its capacity is exactly equal to or less than the demand put on it by the customer base.

The number of years is a similar way of approaching the factor of safety. Again, if you build a plant and put it on line today, you certainly don't want it to be at capacity today. You want it to be good for some years into the future to satisfy growth in the system.

Q. And you were with St. Louis County Water?

A. I was with St. Louis County Water Company prior to being part of the acquisition of that company by Missouri-American.

Q. And in your experience with St. Louis County

Water Company, were there additions to -- was new construction performed during the time that you were with the company?

A. Yes, it was.

Q. And in those instances, if you recall, were the new facilities built to conform to the immediate needs or were they built to consider some needs into the future?

A. They were built with needs into the future anticipated and built into the construction project.

Q. And do you know what regulatory treatment they were given?

A. They were always approved.

Q. So, to your knowledge, there were no disallowances for excess capacity?

A. That is correct.

Q. And what would happen if the company only were able to recover for new plant that met today's capacity needs only?

A. I'm sorry. Could you restate that?

Q. Yeah. If the company were never able to recover for new plant anything greater than what would meet today's immediate needs, what would that do to the company's planning?

A. Well, it would -- it would tremendously complicate it and create greater expense to the ratepayer

because we'd have to -- it -- we'd always be behind the eight ball.

I mean, if you cannot expand your facilities until you know that they're too small to satisfy the demand you have, then you must have already experienced an occasion where you couldn't supply the amount of water that the customers wanted.

And then it takes time to plan. You have -- first, you have to identify that you have the need, then you have to plan, design, get permitting and then you have to construct the project and bring it on line. And that could take a number of years. It could take three or four years depending on the extent of the expansion.

Q. And would that add to the expense of the needed expansion over a specific -- say a 10-year time period?

A. Yes. Absolutely. When you do that, you're losing the value of economy of scale. If I can build a project once, I've got one move-in and one move-out cost. If I'm building on what's called a green field site where there's nothing existing today, usually the contractor's prices are more competitive because he has less risk, he doesn't have to worry about other things in the ground he might dig up when he's digging for a foundation.

As opposed to if there's already a facility

there and then he digs and digs up some pipes, interrupts the operation of the plant, he's got some additional expense, he's going to figure that into his cost estimate to do the job and we're going to be paying for that risk that may or may not occur.

Additionally, just the -- building a larger structure for -- that would -- say, a clear well that would satisfy demand 10 years into the future as opposed to just today would be more cost effective than building a smaller clear well today and then building another one two years from now and another one two years from now or four years from now or however long it takes to go through the planning and design and construction and permitting.

Q. And the Staff has taken the position that in the company's last rate case, a 23 million gallon per day production capacity would have been adequate; is that right?

A. That's my understanding from what I've done to research this issue.

Q. And it is your testimony that as early as August of 2003, 23 million gallons per day was exceeded?

A. Yes. The exhibit that was produced earlier, Exhibit 135, indicated system deliveries -- pumpage delivered to customers as high as 22.51 MGD. That does not include in plant use, which would have pushed that well over 23 million.

Q. And the capacity that is needed certainly would include in plant usage, would it not? You can't do it without that, can you?

A. That's right. I have to wash filters, I have to dilute chemical concentrations and so on.

Q. And the new plant that has come into the St. Joe area -- and I'm drawing a blank on what it is -- but a new industrial customer --

A. Premium Pork Processing.

Q. Yes. Thank you.

A. Yes.

Q. How did that affect the maximum daily flows?

A. Well, as part of my testimony I entered into -- part of my testimony had a schedule that is a letter from Lionel F. Grinstaff of Facility Engineers, Incorporated, which is Premium Pork Processing's engineer on this project in St. Joseph.

Q. That is Schedule 1 to your Rebuttal?

A. I'm sorry. Schedule 1, yes.

Q. All right.

A. They indicated for us at our request in that letter that their average daily usage would be 2.7 million gallons. So if you say add that to what we experienced this summer, just as a -- a hypothetical example or an example, that's another 2.7 million added to -- with in plant use, I

believe approximately 23.5 million and that puts you up to 26.2 million. And now we're 3.2 million above the plant that Staff was recommending we build. And we're not even at the end of our planning horizon, which is 2009.

Q. Now, is it ever considered acceptable to just ignore what you might need on peak days because they're unusual?

A. Not in my view as a water industry professional. I mean, I have an obligation to serve the customer and I need to be able to provide that service on max day -- maximum day.

Q. And Mr. Merciel, I believe, has taken the position that there are seven vertical wells in the company's well field, but that five operated along with the horizontal well facility are currently adequate as the source of water. I assume you disagree with that?

A. Yeah, I do. Five vertical wells, as I recollect the specifications on those wells, will produce new -- brand new, about 18 million gallons a day. If you allow for wear on those pumps and reduction in the transmissivity of the water through the ground to those pumps as will happen over time because fine particles in the soil will fill the void spaces and the pumps won't be able to draw as much water to them as they were when they're brand new that wear on the pumps, interference of one well

from another because the proximity to each other as one pulls down the water table, there's a little bit less for the other or others and so on.

You could experience up to 20 percent loss in capacity of those pumps bringing that down to about 14.4 million gallons a day. And if I have the horizontal collector well out of service for maintenance, then that 14.4 million is all I have left to bring into the plant and that's not even average day pumpage for the system.

Q. And that's currently? You're not talking about in the future?

A. No. I'm saying as those pumps wear over time, but not -- not saying on their initial start-up.

Q. Okay. But what I'm saying, 14.4 million gallons a day would not even be average?

A. That's not even average day for what we're experiencing here presently or what we were experiencing at the time the new plant went on line.

Q. And how soon would you expect that wear and the other factors that you mentioned would begin to lower the capacity?

A. I don't know any firm number, but I would expect to start seeing that or -- seeing that in five, six, seven years perhaps.

Q. And --

A. I mean, you'll see some of it immediately. I mean, it's a phenomenon that will occur from the moment they're put into service. When we would reach the 20 percent could be four, five, six years out.

Q. And what is the effect of the 18 million gallons per day? That doesn't get you up to the 23.

A. Well, the point -- I'm sorry. The point was that there's the vertical wells, the seven vertical wells and there is the horizontal collector well. Together they will produce enough water for treatment to satisfy the peak day that we -- that we predicted in our study.

But my point was if you have the horizontal collector well, for example, out of service for maintenance or there's a failure, then all you're left with are the vertical wells. And if we only had five and they had experienced wear, then we could be down to a number -- a pumpage we could deliver to the plant of only 14.4 million.

Q. Are there ever failures in the vertical wells or needs to shut vertical wells down for maintenance?

A. Yes.

Q. And in the normal planning process do you allow for periodic maintenance?

A. Sure. There is preventative maintenance and there are repairs that have to occur because failures that occur.

Q. So even if there were no failures but there were just periodic maintenance, you would not be running with all of the wells operating 100 percent of the time; is that right?

A. It's -- it's not likely according to our planning -- well, it very well could be the case as there is wear on the horizontal collector wells also, but there is some design in there for redundancy, of course.

You could have a pump fail during summertime pumpage, for example, that could happen any time, but -- and if you only had enough pumps to satisfy peak day, then you have no redundancy in there for those occasions when failures undoubtedly do occur.

Q. Okay. And I understand that. I think my question though was --

A. I'm sorry.

Q. -- even if there were no failures, would there be occasional shut-downs or --

A. Yes.

Q. -- occasionally taking certain wells off?

A. Yes, there would.

Q. And then the two -- Mr. Merciel said the two clarifiers instead of three would be adequate with the provision to add a third and then a fourth. And you, I believe earlier spoke about the clear well and that it would

be -- it's more cost effective -- well, I'm sorry. I'm going onto the clear well now. The clarifiers, talk about the two clarifiers instead of three, if you would.

A. Sure. The recommendation -- yeah, the recommendation for two clarifiers versus three is very troubling because those clarifiers are rated to treat 11 million gallons a day and -- or 11.4. And so together that's 22.8.

And if we only had those two clarifiers and we took one out of service for routine maintenance or because of the failure of some sort, then we're down to 11.4 million gallons of treatment capacity. And that's far below average day even.

Q. Two are below maximum day already?

A. Well, that's true too. That's true too. But I believe the recommendation for only two was that that closely approximated the 23 million that was recommended by Staff. But you're right, we believe we need three clarifiers because together they produce 30 million plus a little bit. And that's consistent with our study -- what our study indicated we would need.

Q. And let's assume that -- let's take Staff's recommendation of two clarifiers and Staff's statement that the maximum need is 23 million gallons per day.

A. Yes.

Q. I realize we're only talking about -- if you assume those were accurate, that that 23 million gallons per day was indeed the maximum, you're still talking about two-tenths of a million gallons, whatever that is, per day less than the peak load. Correct?

A. The peak load we experienced just this year you mean or --

Q. No. I'm saying even Staff's --

A. Right. Yes. Operating them at their permitted design rate, we would have had to -- we wouldn't have enough treatment capacity for 23 million.

Q. And would it be acceptable to treat somewhat less than the maximum peak day need?

A. No. I mean, customers go without water in that case. You don't leave any room for any industrial development or economic growth in the community.

Q. You don't deliver untreated water, do you?

A. Oh, heavens no.

Q. Okay. And then the clear well, that is -- Mr. Merciel said it consists of two 1 million gallon units, but he thought the two 750,000 gallon units would be adequate with the provision to add a third later.

Assuming that two 750,000 gallon units were adequate for today's peak load, how long would it -- well, that's not the question I want to ask. I'm trying to figure

out how to ask this.

Why don't you tell me what two 750,000 gallon units would be adequate for?

A. Well, I believe that Mr. Merciel ratioed down from 30 million gallons a day, which was our design size, for the plant, to the 23 million. And it paralleled, ramped down the size of the clear wells proportionately.

Q. Okay. So that's based on the maximum need of 23 million gallons per day?

A. Correct.

Q. And as we've already recognized, you've already exceeded that?

A. Yes.

Q. And assuming that's the case and that you have to provide for maximum day's load, how much more costly would it be for the company to have put in originally two 750,000 gallon units and now be adding a third than it was put in two 1 million gallons at the time?

A. I'm sorry. I don't know what that cost would have been, but to simply reduce the cost by a dollar per gallon that Mr. Merciel did in his testimony in the last case, that may be practical for how much less they would have cost, so -- assuming a dollar a gallon.

But the -- I think the bigger point is if in the future then you decide to add a third clear well or add

an addition on to one of the existing ones, it will cost you more than a dollar a gallon because now you're going into a facility that's already been constructed, you have sub-surface concerns, things you may run into underground, you may have to, as you're excavating, shore up those clear wells or some other structure that you're digging near because you can't afford to have it fail because, you know, you've got a clear well with water in it on one side of a concrete wall and on the other side you removed all the soil. That's a lot of hydrostatic pressure against that concrete wall.

So the point that I'm trying to make is that while it may be reasonable to reduce the cost -- mathematical calculation by a dollar a gallon to get from a million gallons of clear well to 750, it's going to cost you more than a dollar to put that 250,000 gallons back in the future.

Q. And if you had indeed began with two 750,000 gallon units, would you be finding it necessary to add a third unit at this time?

A. Well, most certainly, yes. I mean, because as I stated, we, in effect, with in plant use experienced more than 23 million gallons on peak day this summer.

Q. And in order to have met that peak day this summer, when would you have had to have added the additional

unit?

A. I will say we would have had to add it by the end of spring of 2003.

Q. And you would have had to began it by, what?

A. Oh, probably -- well, we would have begun design in -- oh, I'll be generous -- say 2001 and early -- you know, beginning of 2001, get permitting from Missouri Department of Natural Resources, advertise bids for contractors to supply bids and award a contract and build the clear well, so at least January '01, if not before.

Q. And I assume that would be the case not only with the clear well but with the other additions that would have been necessary based upon having done everything exactly as Staff recommended that you needed at the time?

A. Certainly the addition of a third clear well would have required at least that much time.

Q. And what was the date of the last rate case that it became effective, do you remember?

A. No, I don't. But I believe true-up in the last case was April of 2000.

Q. And the distributing pumps that Mr. Merciel talked about, he there again said I think one less than what you -- what the company actually put in would have been adequate; is that right?

A. Yeah. I believe he said one fewer pumps and

there were two 300-horsepower and two 200-horsepower, I believe. And he said if you eliminate one pump and convert the other 200 to a 300-horsepower, that would be adequate for 23 MGD production facility.

Q. And in order to meet the peak load on August -- in August of 2003, would those have been adequate?

A. I don't believe so. I don't know exactly what their output is, but if he was recommending the number of pumps that would be adequate for a 23 MGD day, then they wouldn't be adequate for anything in excess of that.

Q. Okay. And what would be a reasonable period of time for planning capacity into the future, in your opinion?

A. Just planning capacity or actually executing a project?

Q. Well, that's not what I mean. We talked about other regulatory examples --

A. Uh-huh.

Q. -- of how you treat capacity, what is considered adequate when putting in new plant. And some was based on a percentage of -- or a margin and some was based on a period of years. If you were looking at a period of years to determine adequacy of new plant, what would be a reasonable period to plan for, in your opinion?

A. In my opinion and experience, 10- to 15-year

horizon beyond the placement of the new plant in service would be a reasonable, prudent way to manage your business.

Q. Okay. And you've got -- I believe your testimony talked about some needs that are in the Joplin area currently?

A. That's correct. And the fact that the company is in a decision-making process as far as what kind of treatment might be given to new plant and whether you should be planning for just the immediate needs or whether you should plan for capacity as it develops in the near future; is that right?

A. That's correct.

Q. And that is because, I would assume, the company needs to understand what kind of regulatory treatment it will be given before it makes significant investments; is that right?

A. Yes, that's right. We've done a growth study in Joplin recently and we believe that by 2015, based on our study methodology that we're going to be facing a 28 million gallon a day peak day.

And right now we need to begin those plant improvements. We are almost -- we are at about capacity now. And this is very troubling for us, because we learned in the last Missouri-American case that apparently we should not have designed for anything more than current peak day

demands. And we're lost for what to do.

Q. And right now what is the peak day demand in Joplin?

A. The -- that's in my testimony. Just this past summer we experienced 19.7 MGD system delivery. And our current plant capacity is at 20.86 and that includes in plant use of .67, so we're about 20.2 MGD system capacity so about half a million gallons of margin there.

Q. And if we use Staff's rationale, there would be no need to add capacity at this point; is that right?

A. Yeah. With half a million gallons of margin I guess we're supposed to continue just remain in status quo for the time being, based on my understanding of Staff's position in the last case.

Q. Because if you did add capacity beyond 20.2 million gallons, that would be considered excessive capacity. Is that your understanding?

A. That's my understanding from Staff's position in the last case.

COMMISSIONER MURRAY: Okay. Thank you.

THE WITNESS: You're welcome.

JUDGE THOMPSON: Thank you, Commissioner.

Ms. O'Neill?

MS. O'NEILL: Thank you.

CROSS-EXAMINATION BY MS. O'NEILL:

Q. Afternoon, Mr. Kartmann.

A. Good afternoon, Ms. O'Neill.

Q. Okay. Since it was suggested I should maybe ask you about this on cross, let me start there. You had made reference in your discussion with Commissioner Murray regarding some Virginia regulations. What's the citation for those regulations?

A. In other words, where did I draw them from?

Q. What is the citation for the regulations, yes.

A. I drew them from some past testimony I have with my notebook here.

Q. Have you read that Virginia regulation recently?

A. No, I have not.

Q. Have you ever read it?

A. No, I haven't.

Q. You've never read the regulation you just cited to Commissioner Murray?

A. Other than the section of it that was inserted in testimony that I have in my binder here in front of me.

Q. Is that testimony that you wrote?

A. No, it's not.

Q. Whose testimony was it?

A. I believe it was John Young's.

Q. And was it testimony that was filed in this

case?

A. I don't believe so.

Q. So you were quoting from testimony filed somewhere, but not in this case, regarding a Virginia regulation you've never read; is that correct?

A. I've read that section of the regulation in this testimony that was filed in the Missouri-American 2000 rate case.

Q. But you've never read the regulation itself?

A. I've never pulled the regulation book out and read it, no.

Q. Okay. Now, you also cited to an American Water Works Association article. Can you tell me what the -- who the author of that article is?

A. Mr. Peter Macey.

Q. And when was that article published and in what publication?

A. I can't tell you that, but it's in Mr. Young's testimony from the 2000 rate case.

Q. And when did you read that article?

A. I did not read the article.

Q. You've never read the article?

A. No, I have not.

Q. And, again, this is not part of Mr. Young's testimony from some case that you've adopted in this case,

is it? It's not a portion of the adopted testimony in your Rebuttal Testimony? I can save you some time by telling you at least the citation to the article is not in there.

A. In my testimony on page 20, lines 14 and 15, I state that those reasons were explained by Mr. Young and I adopt his comments from that case here as my own.

Q. Okay. Well, let's talk about what you adopt here as your own in your Rebuttal Testimony. Is it true, Mr. Kartmann, that you adopt what's in your Rebuttal Testimony, the text from line 17, page 20 through line 5 on page 25 as your own, which was actually originally Mr. Young's testimony in another case?

A. Line 17 on page 20 through --

Q. Line 5 on page 25.

A. I'm sorry. The question again?

Q. Is that where, in your testimony, Mr. Young's comments that you're adopting are contained? That's a paraphrase of my prior question, but is that it?

A. Some of that. Some of it is my own direct on my own.

Q. Okay. Can you tell me where between line 17, page 20 and line 5 on page 25 is not Mr. Young's testimony?

A. It's difficult for me to say which of these thoughts I adopted directly from John Young's testimony and which ones are my own original thoughts from my own

investigation of the evidence and testimony provided in that rate case and information I've learned since then through conversations with people associated with that case, engineers involved in that project.

Q. Is it now your testimony today that the text from line 17 on page 20 to line 5 on page 25 is not testimony that was essentially lifted out of Mr. Young's prior testimony and pasted into your Rebuttal Testimony?

A. Some of it is, but some of it isn't.

Q. Okay. Please tell me which parts are not.

A. And I'm saying I don't know that I can recall that.

Q. Okay. Is there anyplace else in your Rebuttal Testimony where you have taken a portion of Mr. Young's prior testimony from a different case and put it in your testimony in this Rebuttal Testimony, other than the pages that we've talked about?

A. Not that I recall at this time.

Q. Okay. So you don't know for sure what parts of that testimony in that one group is yours and what's Mr. Young's, but you think some of it may not be Mr. Young's. Is that your statement here today?

A. I'm sure some of it's not his, but I've been associated with it so long and in such great depth, it's hard for me to recall anymore what's directly his testimony

and what is mine and what of his adopted.

Q. In fact, regarding your testimony regarding Mr. Joseph excess plant capacity, can you tell me how much of that you actually wrote yourself?

A. Where are you referring?

Q. Well, starting at page 19 of your Rebuttal Testimony. I think that's the last topic you cover.

MR. CIOTTONE: Your Honor, this is the same question about four times in a row. He's saying he can't with specificity tell exactly which parts are his and which are not but since he's adopted them all, they're all effectively his. And I just don't know how much further we can go with this. So I object to it as being redundant, repetitive, and asked and answered.

MS. O'NEILL: Actually, I hadn't asked any questions regarding the other pages between 19 and 30. And I think it is relevant because it appears he's attempting to adopt other testimony filed in another case that's not filed here that is not based on his own personal knowledge.

And I just want to know for the record whether any of this testimony from 19 to 30 is his own or if it is all taken from some other source.

MR. CIOTTONE: Well, your Honor, the point of that though is that it's not relevant because if he says -- if he takes a sentence that is coincidental or plagiarized

from someone else's and says, These are now my words, I swear to the truth of these words -- and he's been candid that they've come from Mr. Young. He's not like he's trying to hide that.

But this is now his testimony. He's swearing to the truth of it and has been willing to be cross-examined on the legitimacy and truth of it. So this jousting about from which it came is irrelevant and has been already answered with respect to his inability to point out which parts are which.

MS. O'NEILL: Your Honor, I think it's very relevant as to what Mr. Kartmann actually has knowledge of. He's being presented as an expert witness in this case and if he's testifying about things that he actually knows, that's one thing, whether as an expert or from personal knowledge and personally looking at any document or piece of equipment or anything.

If he's simply adopting testimony without personal knowledge of what's inside, I think that's relevant for the consideration of this Commission in deciding what weight to give Mr. Kartmann's testimony.

MR. CIOTTONE: I have no objection to any question of Mr. Kartmann about what he knows or doesn't know.

JUDGE THOMPSON: Why don't you proceed by

asking him what he knows about the topics he speaks of. Okay? Move on.

BY MS. O'NEILL:

Q. Okay. Before we get into things that are contained in your pre-filed testimony, there was another document that you referred to in your conversation with Commissioner Murray. And that was a document from Connecticut and you had a section number. Can you tell me what that was?

A. Section 16-11-79 of the Connecticut Department of Utility Control Regulations.

Q. And when did you read that regulation?

A. I just -- I read it here today.

Q. Have you ever read that regulation yourself or are you relying on someone else's testimony?

A. It's out of John Young's testimony.

Q. Okay. So you're relying on what was written there? You don't know whether or not it was correctly written or anything like that? You haven't actually read the regulation in its original format?

A. No. I've not opened the regulation book and read it.

MS. O'NEILL: Your Honor, at this time I'd move to strike all testimony from Mr. Kartmann related to the Virginia regulation, the American Water Works

Association article, and the Connecticut statute that he's testified he has not actually read; therefore, I believe he has no personal knowledge.

It is not -- it is hearsay. It is not the type of hearsay that he has relied on in formulating his opinion because he hasn't read it. I'd ask that that testimony be stricken from the record.

JUDGE THOMPSON: Mr. Ciottone?

MR. CIOTTONE: Well, Mr. Kartmann was simply trying to answer Commissioner Murray's question to the best of his ability. And if Ms. O'Neill's thinks it's appropriate and wise to make that information unavailable to the Commission, I'm not going to oppose it.

JUDGE THOMPSON: I'm going to have to grant the objection.

MS. O'NEILL: Thank you.

JUDGE THOMPSON: The testimony in question shall be stricken. Please move on.

BY MS. O'NEILL:

Q. Mr. Kartmann, when you were answering questions from Commissioner Murray regarding the pump and dates on Exhibit 135, you were talking about August 8th; is that correct?

A. Yes. She was asking me about the August 8th date.

Q. Okay. And referring to Exhibit 135, do you have a copy of that in front of you?

A. Yes, I do.

Q. And on Exhibit 135 there is -- the text is evidently an e-mail to you from a Mr. Simmons who works for your company. Correct?

A. Yes.

Q. And the information included in this e-mail response is information on the highest pumpage dates in 2003 for the St. Joseph treatment plant; is that correct?

A. That's correct.

Q. Is there any other information qualifying pumpage on those dates contained within Exhibit 135?

A. Just that he says you can see the peak flow date for '03 occurred on August 8th.

Q. Is there anything in Exhibit 135 that states whether or not that pumpage includes internal usage at the plant?

A. No. But I specifically asked for system delivery --

Q. You --

A. -- which does not include the plant use.

Q. I'm asking you what's on 135. On Exhibit 135, which is in evidence, is there anything that says anything about whether or not that pumpage includes internal plant

usage?

A. No.

Q. Is there storage capacity at St. Joe?

A. Yes, there is.

Q. What's the total storage capacity in St. Joe?

A. I don't know offhand. There's the two 1 million gallon clear wells at the plant, there's the tanks that they pump to and the distribution system, the Huntington tanks, which I believe are a total of 7 million gallons.

Q. There may be something else, but that's kind of an approximation?

A. Yeah.

Q. Okay.

A. That's really for fire protection and peak hour demands, not for -- not for total day demands.

Q. But is used sometimes when there's peak; is that correct?

A. Sure. But you don't rely on that for max day.

Q. Now, you're aware that the Public Service Commission disallowed a portion of that St. Joe treatment plant as not being used and useful in that 2000-281 case; is that correct?

A. That's correct.

Q. And you note on page 19 of your Rebuttal

Testimony Mr. Merciel's recommended adjustment in this case, including a statement that water production in St. Joseph on peak days is not increased. Do you see that? It's at lines 16 and 17, I believe.

A. Yes, I see that.

Q. Okay. Did you prepare this answer to this question in your testimony?

A. I prepared the answer, yes.

Q. Okay. And there's nothing in the answer that says you disagree with Mr. Merciel's conclusion, is there?

A. That's correct. I'm not agreeing either.

Q. Okay. Mr. Merciel is accurately stating that the water production in St. Joe on peak days had not increased at the time he'd filed his testimony; is that correct?

A. I don't recall the date that he filed his testimony.

Q. You have no reason to doubt it's an accurate statement based on information available to Mr. Merciel from your company at that time?

A. No. I have no reason to believe he wouldn't answer accurately or truthfully.

Q. And you believe that that's a true answer that he gave in his testimony?

A. Yes.

Q. Now, referring you to your testimony at page 28 of your Rebuttal, line -- actually that's not -- that's not the right page. Never mind.

Talk to you a little bit about Premium Pork. Premium Pork is not on line as a customer of American Water at this time; is that correct?

A. No. But it's anticipated for 2005. That's what we've been told.

Q. It's not actually taking water right now; is that correct?

A. No.

Q. And some time in 2005, but not necessarily January 1, 2005 it will be on line?

A. Not necessarily. They're in the process of buying property now.

Q. So they haven't broken ground yet?

A. Not the last time I checked.

Q. Are there still contingencies that could occur which would make Premium Pork not actually open up a plant in St. Joe?

A. It doesn't look that way.

Q. You don't know for sure?

A. They've -- I know the city's providing them tax breaks, we've got the competitive tariff for them in place. They're moving forward, as I said.

Q. The competitive tariff gives them, Premium Pork should it actually become a customer of Missouri-American, a special economic development rate; is that correct?

A. That's correct.

Q. That would be less than it would pay otherwise as an industrial customer of Missouri-American Water; is that correct?

A. That's correct.

Q. Now, since the last rate case for St. Joe, the 2000-281 case, are you aware of whether or not Missouri-American has lost any major industrial customers in the St. Joseph area?

A. Yes. I can think of one.

Q. And so there had been a reduction in industrial sales at least relating to the loss of that customer since the last rate case; is that true?

A. I'm not sure about that offhand. There may be a reduction in a customer but then, you know, the different customers have different usages from year to year. So I can't tell you offhand if there's been a reduction in demand.

Q. Okay. So you may have been able to recover some of that revenue from other customers. Is that your testimony? You don't know for sure?

A. I don't know for sure.

Q. Now, if your company had not implemented this new special economic development tariff that Premium Pork is going to buy its water under, do you know whether or not you would be having this customer in St. Joe?

A. I don't know that with certainty, but certainly the economic development tariff was a motivator for them.

Q. And whether or not Premium Pork would have gotten the special rates under that tariff, you still would have the capacity at the St. Joe treatment plant -- same capacity whether or not you had the tariff or not. Right?

A. That's true.

Q. So the mere fact that you had this additional capacity may not by itself have been enough for Premium Pork to locate in St. Joe or commit to locating in St. Joe?

A. It may not have been, but without it, it couldn't happen.

Q. In fact, one of the terms of that special development economic rider is that the company that seeks to take water under that special tariff is only going to locate there if they can get the special deal; isn't that correct?

A. I'm sorry. Could you state the question again?

Q. One of the provisions of that tariff is that

the potential customer will only locate in that area if they get the special terms of the rider; is that correct? Is that one of the criteria?

A. I don't recall it, per se, but it could be.

Q. Did you participate in drafting that tariff or participate in the proceedings regarding that tariff?

A. No, I didn't.

Q. Okay. Now, regarding Joplin, Missouri-American hasn't begun any actual construction regarding new water facility in Joplin, has it?

A. Nothing at the treatment plant, no.

Q. Okay. And the plant in Joplin is still within system capacity to handle those peak days; is that correct?

A. Barely. But our growth study indicates that we should have -- that we're not going to have enough water soon.

Q. You're not here today asking the Commission for any kind of pre-approval regarding a possible plan regarding -- for new plant in Joplin, are you?

A. No. We're simply looking for some clarification on what the Commission believes is appropriate planning for treatment facilities.

Q. Now, according to your testimony it appears that the only options that you think of -- you can think of regarding this possible future plant in Joplin is either to

significantly over-build in relation to your present needs or to engage in annual plant additions to the system. Are those pretty much the options that you've come up with in your testimony?

A. To significantly over-build?

Q. Over-build or to -- or to build every year.

A. I wouldn't -- wouldn't refer to that. I'd say to build appropriately for an appropriate planning horizon is -- is what we believe is the right approach, or we're wondering -- or trying to get clarified is the approach approv-- the approach that the Commission feels prudent to just build for current day demand or current max day demand.

Q. Now, as far as the decision that was made regarding the St. Joe plant, do you characterize that in your testimony as being punished for that investment? Do you recall making that statement?

A. Yes, I do.

Q. Can you recall any place in the opinion in the Report and Order in 2000-281 where the Commission indicates that it is making this disallowance in order to punish the company?

A. No. I don't recall reading that word anywhere in that Report and Order.

Q. Okay. Now, I want to direct your attention to the page 30 of your testimony, the sentence that starts on

line 6 regarding investment and where you're talking about whether or not -- if investment is punished. Do you see that sentence?

A. Yes, I do.

Q. Toward the end of that sentence it says, This could change investment policy. And I have a question regarding that.

Do you have any indication from anyone in your company or one of the parent companies that they will not make sufficient investment in Missouri to continue to provide safe and adequate service to all of your Missouri customers?

A. No, I don't. That's not what I'm trying to say there.

Q. So if investment is necessary to provide adequate service and safe service, your company is not threatening to pull out? They're going to make that investment?

A. Absolutely.

MS. O'NEILL: I don't have any further questions.

JUDGE THOMPSON: Thank you.

We're overdue for a break for the reporter so we'll take 10 minutes now and come back for cross-examination by Mr. Krueger. We are in recess.

(A recess was taken.)

JUDGE THOMPSON: Mr. Krueger?

MR. KRUEGER: Thank you, your Honor.

CROSS-EXAMINATION BY MR. KRUEGER:

Q. Good afternoon, Mr. Kartmann.

A. Good afternoon, Mr. Krueger.

Q. I believe you testified that if the plant had been constructed in accordance with Mr. Merciel's recommendation, that during these peak flows from 2003 that are indicated on Exhibit 135, you would not have had enough water to meet customer demand. Did you say that?

A. That's correct.

Q. Now, do you truly mean you would not have had enough water?

A. For a plant designed at 23 million, if we did exceed 23 million, we wouldn't have enough water.

Q. There wouldn't be a problem with pumping capacity, would there?

A. As I said earlier, assume Mr. Merciel arrived at the three pumps that he recommended at 300-horsepower each to conform to the 23 MGD. I'm not sure exactly what those three pumps would produce.

Q. Okay. Since you're talking about the distributor pumps, we'll just go to that subject. You did review Mr. Merciel's testimony?

A. Yes.

Q. And specifically you looked at Schedule 2-2 where he showed calculations regarding the distributor pumps?

A. Yes.

Q. Now, it appears to state there near the bottom that a 200-horsepower pump has capacity of 5,560 gallons per minute, 8 MGD. Would you agree with that?

A. Those were the calculated flows, yes, not the observed flows.

Q. You don't have any reason to disagree with that, do you?

A. Not as a calculated number.

Q. Okay. And that a 300-horsepower pump would have a capacity of 9,730 gallons per minute which is 14 MGD?

A. That's correct.

Q. I believe that Mr. Merciel also showed there at the bottom of that calculated flows two 300-horsepower pumps, that being No. 2 and No. 4, would have a capacity of 28 MGD; is that correct?

A. That would be a calculated flow.

Q. I understand. That's what he has indicated there, that it's calculated flow. Do you have reason to believe that the actual flow would be significantly different than that?

A. I don't know. I mean, he's got some observed flows on there as well, and I think that would be the number that we'd want to rely on.

Q. Okay. Would I be correct to say that the observed flows are less than the calculated flows but only slightly? Within 5 percent in each case. Correct?

A. That sounds about right.

Q. Okay. Now, Mr. Merciel also showed that the calculated flow for pumps 1, 2 and 3 running, which is a 200-horsepower pump, a 300-horsepower and a 200-horsepower pump would be at 30 MGD calculated flow and 28.6 observed flow. Correct?

A. Yes.

Q. So that's pumps totaling 800 horsepower would provide 28.6 MGD observed flow?

A. That's correct.

Q. And what Mr. Merciel recommended is three 300-horsepower pumps, which would be a total of 900 horsepower, somewhat greater than that combination that I mentioned of pumps 1, 2 and 3, which is 700 horsepower; is that right?

A. Yes. That's correct.

Q. In fact, the calculated flows for a 300-horsepower pump is 14 MGD and so for three 300-horsepower pumps would be 42 MGD, would it not?

A. That's true.

Q. And if the observed flows are not more than 5 percent less than that, the observed flows ought to be about 40 MGD; is that correct?

A. That's correct.

Q. Okay. So when you say you would not have had enough water to meet the customer demand, it's not that the three 300-horsepower pumps would provide -- distributor pumps would have insufficient capacity, is it?

A. As long as they're all operational and they haven't experienced any wear that would reduce their effectiveness and their output. But there are plenty of other pieces of this plant that would have limited our ability to serve more than 23 MGD.

Q. I'm confining my question right now just to the distributor pumps.

A. All right.

Q. Let's say there was one of them that was down at this time. What would the observed flow be if two 300-horsepower pumps were operating?

A. Brand new as the time Mr. Merciel observed them, probably around 26 or 27 MGD.

Q. Which is more than the maximum flow that is mentioned for any of the dates on Exhibit 135, is it not?

A. That's true. But I don't know what those

observed flows would be today given wear and tear.

Q. Okay. Next, I want to talk about the well pumps. Mr. Merciel recommended installation of five vertical pumps as being sufficient, did he not?

A. Yes. That's my recollection.

Q. And did you look at Schedule 1 of Mr. Merciel's testimony?

A. Schedule 1? This would be of his Rebuttal Testimony in the 2000 rate case?

Q. Yes. His Rebuttal Testimony, it looks like this. It's St. Joseph Peak Day Raw Water Production is what it's entitled.

MR. MERCIEL: This case, not the old case. It's this case.

BY MR. KRUEGER:

Q. No. I'm sorry. It's the Direct Testimony in this case.

A. Give me just a moment and let me -- I don't believe I've seen that.

MR. KRUEGER: May I approach, your Honor?

JUDGE THOMPSON: You may.

BY MR. KRUEGER:

Q. Now, does that schedule appear to show what the pumpage was from each of the vertical wells on peak days in I believe 2001, 2002 and 2003?

A. That's what it appears to indicate.

Q. Looking at the data for 2003, there's information for July 15, July 16, July 17 there. Do you agree?

A. Yes.

Q. And does that also indicate that each of those four pumps that was operating at that time was pumping about 3.8 MGD?

A. Except on the 17th, No. 4 looks like it was pumping about 2.1.

Q. Okay. You have no reason to doubt though that each of those four pumps is capable of pumping 3.8 MGD, do you?

A. No, I don't.

Q. And if there were five such pumps, then there would be an additional pump that would be capable of providing additional pumping capacity?

A. Yes.

Q. And pumps 5, 6 and 7 each pumped 3.8 MGD at various times during the peak days in 2001 and 2002, didn't they?

A. Yes, they did. But if I add additional pumps in service, then I'm going to change the ground flow characteristics and they could pump a little less each or something like that. So I can't know with certainty if you

added pumps 5, 6 and 7 on those dates in July of '03 whether we would see them all drop off a little bit or what -- or not.

Q. You'd expect it to be greater though than just with four running, wouldn't you?

A. Yes, I would.

Q. Now, in addition to the vertical wells, there's also the horizontal well. Correct?

A. That's correct.

Q. Am I correct to understand that that's one well with three pumps in it?

A. Yes.

Q. Now, this Schedule 1 indicates that in July of 2003, pump 9 in the horizontal well pumped nearly 6.7 million gallons one day. Correct?

A. That's correct.

Q. So even with one of the vertical pumps not running, it indicates that four vertical pumps plus the one horizontal pump -- one pump from the horizontal well could provide about 21.5 MGD of pumpage?

A. Yes. But if I didn't have the horizontal well in service because it broke down or something, I -- I'd have to have -- I'd have to be running six vertical wells on that day. And if I only had five, per Mr. Merciel's recommendation, I'd be out of luck.

Q. Has the horizontal well been broken down yet?

A. Oh, yeah. It's been out of service before.

Q. But you would still have the five vertical wells operating?

A. Yeah. But at these rates, that wouldn't have been enough, I don't believe. No, that would be in the order of 19 million and those days are 21, 22.

Q. Do you contend that if a plant had been constructed as Mr. Merciel testified, that it could not be safely operated to meet the demand on those four dates in 2003, the dates that were shown on Exhibit 135?

A. At some point we have to decide how much we're going to pump, and we should pump no more than the design rate. That's why there's a design so that you know what the limit should be on what you pump out of a plant.

If I exceed that capacity, I could cause a boil over in the clarifiers which would send solids that are supposed to be settling to the bottom of the basin over into the filters. I could have high turbidity in the distribution system as a result of that. I could end up with high head losses through the filter, which could cause some damage to the filters.

Q. Okay. But my question was whether you contend that if the plant had been constructed as Mr. Merciel recommended, that it could not have been safely operated on

those dates?

A. I don't know. It would have exceeded the design capacity and that wouldn't be responsible, in my view.

Q. So you have no opinion on that?

A. I think I gave my opinion, you know. The DNR has to rate plant capacities and they do that. And beyond what's good engineering design, I also don't want to exceed the rating that would be given by Department of Natural Resources.

Q. Did you look at Mr. Merciel's Schedule 2-1 attached to his Direct Testimony in this case?

A. No. I don't believe I have that. Is that in here?

Q. That is in there. It should be the next page, I believe.

A. This is from the 2000 rate case. It says up in the upper right-hand corner James A. Merciel, Jr., Rebuttal Testimony, WR-2000-281.

Q. It is so labeled. In the lower right-hand corner it's identified as Schedule 2-1 and it was attached to his Direct Testimony in this case.

A. Yes. I have seen this.

Q. Okay. And I believe that shows near the top of the page total production actual on July 20, 1991 of

25,328,000 gallons. Do you see that?

A. Yes, I do.

Q. Do you know what the nominal capacity of the St. Joseph treatment plant was on that date?

A. This is 1991?

Q. Yes.

A. No, I don't. That would have been -- that would have been the old plant.

Q. I believe Mr. Merciel stated in his testimony that it was 20.8 MGD. Would you have any reason to doubt that?

A. No. I don't have any reason to doubt Mr. Merciel's testimony.

Q. Do you have any reason to believe that the plant could not be operated safely on July 20th, 1991 with the plant that was there at that time?

A. I don't know all the history of that old plant. I don't know what other variables were affecting it on that day, I don't know what the river conditions were, but I would not have wanted to do that.

Q. But you're not saying it was unsafe to so operate it?

A. I'm saying I don't know.

Q. Okay. The company continued to operate that plant for quite some time after that date without increasing

the capacity, didn't they?

A. I believe that's correct.

Q. Do you believe it was unsafe to continue to operate that plant in that manner at that capacity?

A. Again, I can't -- I can't know because I don't -- I don't know the physical specifications of the old plant. I was barely associated with it when I became part of Missouri-American.

Q. But you don't have any reason to doubt that in 1991 on one day, the plant produced 25.3 million gallons of water even though it had a nominal capacity of 20.8 MGD?

A. I have no knowledge at hand to disagree with that.

Q. Now, you read Mr. Merciel's testimony in this case, didn't you?

A. Yes, I did.

Q. Did you understand him to say that you should not design for the year 2009 or only that it -- that the plant should not have been constructed with the capacity that would not be reached until 2009?

A. I believe he was saying it should not be constructed for the capacity necessary in 2009.

Q. Thank you.

And if the plant had been constructed as Mr. Merciel recommended, would it be possible to add

facilities such as pumps as demand increases?

A. Pumps and clarifiers and clear wells and vertical pumps and -- yes, at significantly greater cost.

Q. And you said that you'd lose economies of scale by constructing the facilities in stages instead of all at once?

A. That's correct.

Q. And that it would cost more to -- possibly construction costs might be higher if it's constructed later?

A. Yes. That's what I said.

Q. But by building it earlier, by building it at the time that the company did, you lose the time value of the money on those facilities that were constructed in excess of the capacity that Mr. Merciel recommended?

A. Yes, that's true.

Q. You testified about a new customer, Premium Pork, which will require 2.7 million gallons per day, did you not?

A. I did.

Q. And did you say when that capacity would be required?

A. In my testimony, I believe I stated 2005.

Q. You attached to your testimony Schedule 1, which is a letter from Mr. Grinstaff to Bob -- is that Aman?

A. Aman.

Q. Aman; Bob Aman?

A. Yes.

Q. Did Mr. Grinstaff state in there when that capacity would be required?

A. I don't see it in there.

Q. There's no mention of 2005 in there, is there?

A. No. But my --

Q. That's sufficient. Thank you.

Now, you were able -- the company was able to offer Premium Pork a low rate for the water that it buys from the company. Correct?

A. That's correct.

Q. In fact, it's the lowest rate of anybody -- that anybody has to pay. Correct?

A. I'm not sure of that. I didn't participate in the design of that tariff.

Q. Part of the reason you were able to offer that low rate is because the plant has a capacity of 30 MGD and demands from other sources have only about 22 MGD on peak days most years?

A. Over 23 this year. But, yeah, only because we have the capacity available could we support economic development in St. Joe in the form of Premium Pork.

Q. When you say that clarifiers are rated for

11.4 MGD, what design parameters are you using?

A. I'm recalling some documentation I read in some of the design manuals and design documents that were produced for that project.

Q. I believe in Mr. Merciel's testimony, Schedule 2-3, he indicated there for the clarifiers 1 GPM per square foot and 90 minutes detention. Is that the design parameters that you would use?

A. No. I don't believe so.

Q. Do you know what parameters were used?

A. The 11.4 million gallons per day per clarifier. How that breaks down to gallon per minute per square foot I'd have to calculate that, but I don't know that off the top of my head.

Q. Aren't clarifiers sized in order to provide a certain loading in terms of gallons per minute per square foot and certain detention period?

A. Yes, they are.

Q. Okay. So I guess my question is, how do you get to the 11.4 MGD?

A. Well, as you indicated yourself, the loading rate is gallons per minute per square foot. The square footage that's being referred to there is the surface area of the clarifier, which is indicated as 105 feet less the center column area which is the mixing area of the

clarifier, not the settling area. Taking the -- subtracting off that center column gives you the settling area.

If I then took the 11.4 million gallons and converted that to gallons per minute and divided that by the square footage, that would give me the loading rate based on the 11.4 million that I stated in my testimony.

Q. But you don't know whether that would equal or exceed or be less than 1 gallon per minute per square foot?

A. Not without doing the calculation.

Q. It seems to me that you'd start with the parameter of the loading that -- the maximum loading that you want to have in determining what the capacity of the clarifiers is; is that not correct?

A. That's just another way of expressing it. I mean, I'm just addressing it from the -- you know, you can work from the gallons per minute per square foot loading rate or you can convert that to gallons per day through that treatment facility. And that's all I did. I just used the 11.4.

Q. Where did the 11.4 come from?

A. Again, it came from some design documents that I reviewed in preparation for this case. I -- they were design documents assembled by the engineering department back at the time the plant was being designed.

Q. You don't have them with you --

A. No.

Q. -- so I can't ask you any questions about them?

A. I'm sorry. I don't.

Q. At Schedule 2-3 Mr. Merciel also indicates there at the bottom with a flow of -- if I'm reading it correctly -- with a flow of 23 MGD and with 2 clarifiers in service, the loading would be .92 gallons per minute per square foot, which could result in 178 minutes detention time; is that right?

A. That's correct.

Q. Would that be within an acceptable range?

A. I don't know. I -- again, I'd have to convert the 11.4 to gallons per minute per square foot and from that calculate the detention time.

Q. The only thing you know is that the capacity is 11.4 MGD, and you don't know why it's 11.4, you just know it is?

A. Based on the 11.4 million gallons per day per clarifier, I'm coming up with a loading rate of .915 gallons per minute per square foot, so a little less than what Mr. Merciel has in his schedule.

Q. Possibly with rounding it would be .92?

A. Well, perhaps. I don't know. I don't know all the details that went into his calculation.

Q. And do you have an opinion as to whether that .92 gallon per minute per square foot is acceptable?

A. I believe the .92 design rate that's comparable to his 1 gallon per minute per square foot -- I mean, those are different. And I'm -- I would say that the .92 is the appropriate rate, not the 1.

Q. And 178 minutes detention time, do you have an opinion about whether that's appropriate?

A. Oh, I would say that it's not because it's pushing it through there too quickly, in excess of the design rate of -- based on the 11.4 million gallons.

Q. 178 minutes detention time is pushing it through too quickly?

A. No. No. I think that's right on par with -- right on par with what I'm proposing on -- with the 11.4 -- or what I'm stating with the 11.4.

Q. With one in service then the loading is just doubled, isn't it?

A. Yeah. Which is a problem.

Q. Now, are these clarifiers taken out of service often?

A. They're taken out of service at least once a year. That's if -- that's if it's only for routine maintenance and not for some problem that's occurred, some mechanical failure.

Q. How long has this plant been in operation?
A. Since April 2000.
Q. Nearly three years?
A. A little more.
Q. Nearly four years. Has there been a mechanical problem that required the clarifiers to be taken out of service during this time?
A. I can't recall the specific nature, but yes, there has been a need to take a clarifier out, an unplanned instance.
Q. Do you recall how long it was taken out of service?
A. No. I know when they're taken down for planned maintenance, they're down for a week or so -- a week or two.
Q. When they're taken down for planned maintenance, you can schedule that at a time when flows are expected to be low, can't you?
A. Yes, you can.
Q. Such as in the spring or fall?
A. Yeah. But that would leave us with one clarifier that can't even do average day capac-- average day demand.
Q. Now, the issue that's presented here is essentially the same issue as was presented to the

Commission in the last rate case, is it not?

A. I'd say so.

Q. And the Commission rejected the company's arguments in that case -- or I guess as you would prefer to state it, the Commission didn't reject your arguments but they accepted the Staff's reasoning which was in opposition to the company's?

A. I think that's consistent with my characterization, yes.

Q. Would I be correct to understand that you believe that the Commission's decision in that case may have been motivated by political or public relations purposes, to minimize the amount of a rate increase that was unpopular even though they didn't really believe that they should have accepted the Staff's position?

A. I believe it's possible. I certainly don't know what thoughts led them to that conclusion precisely, but there were a lot of factors to weigh, a lot of interest to consider. And because I believe that the weight of the evidence indicated that what we did was prudent, in my view, in our view, that perhaps other evidence that was presented allowed them to make a decision that, in their view, balanced all the interests.

Q. Has there been a significant change in the demand at the St. Joseph plant since the last rate case?

A. It hasn't grown significantly yet. We have.

Q. So you're basically asking the Commission to reconsider its decision in the previous case or to issue -- come to a different conclusion in this case even though there's been no significant change?

A. You have to consider it's -- well, you have to consider the fact that the planning is based on what will peak day be and that has a lot to do with weather conditions, when those hot, dry days occur and so on.

And just because we haven't seen that peak day that is in our study doesn't mean it won't happen. And, yes, we want the Commission to reconsider its decision and -- and I guess add some clarity as to how we should be planning in the future for similar type projects.

Q. Has there been a significant change in the type of weather conditions you'd expect at St. Joseph since the last rate case?

A. I don't believe we've seen them yet.

Q. I believe you said or perhaps just implied that the Staff said that the Commission should make no allowance for internal water usage. Is that your position, that the Staff said that?

A. I believe so, because I don't recall reading in the testimony -- in Staff's testimony any consideration for that. And if the plant was to be designed at 23 million

and you allow 5 percent of that capacity for internal plant use, you end up with less than 23 million that's available to the distribution system. Yet that's the demand that I believe Mr. Merciel was saying we should be designing for.

Q. Can you point to any statement in Mr. Merciel's testimony where he said that the Commission should make no allowance for internal water usage?

A. No. Not offhand, I do not.

Q. Okay. So your position that -- or your understanding of the Staff's position that the Staff thinks that the company should make annual additions to its plant?

A. I'm sorry. Could you ask me the question again?

Q. Do you understand the Staff's position to be that the company should make annual additions to its plant?

A. Perhaps not annual, but only when system demand exceeds plant capacity. So if that -- if we have an increment of demand increase each year that -- and it exceeds the existing plant capacity, then I don't know what other choice we're left with than to make annual increments.

Q. But you can't direct me to any part of Mr. Merciel's testimony where he said the company should make annual adjustments to its plant, can you?

A. I don't recall any.

Q. Is it the company's position that the

ratepayers should pay higher rates in order to support a plant that is larger than needed in order to promote economic development for St. Joseph?

A. No. But they should be willing to pay for a plant that's appropriately sized.

MR. KRUEGER: That's all the questions I have, your Honor.

JUDGE THOMPSON: Thank you, Mr. Krueger.

Mr. Ciottone?

REDIRECT EXAMINATION BY MR. CIOTTONE:

Q. Mr. Kartmann, Ms. O'Neill asked you a deal with her questions first as she went first. She asked you what you meant by the word "punish" and asked if you could find that in any of the Commission's documents. What did you mean by your use of the word "punish"?

A. What I meant by the word -- by the use of the word "punished" was the company undertook a reasonable and generally used and accepted approach to water treatment plant design and -- I'm sorry, to growth studies and prepared a plant design in accordance with the information that was produced by that growth study, believes it's a prudent decision that -- that was made.

And yet, in the end, the Commission disallowed, you know, $2,271,756 from the value of that plant that we're not earning a return on or return of.

Q. And Mr. Krueger I think defined that as losing the time value of the money. Would you agree with that, that's what you're losing?

A. I'm sorry. Would you say that again?

Q. Mr. Krueger described that as you're just losing the time value of the money, of that 2,271,756. Do you agree with that?

A. I believe that's what he's saying.

Q. As a design engineer responsible for designing plants, are you going to avoid getting yourself in that situation where you lose the time value of money again?

A. I have to, yes, I am.

Q. Let's get to this issue about -- oh, one more thing before I leave that. Is it your understanding that the edict that we're being asked to live by is that only plant that is being presently used for present needs is going to be in rate base and anything more than that is going to be gone?

A. That's the message I get from the result of the last Missouri-American case.

Q. All right. Now, what's your attitude toward this pushing beyond rated capacity that Mr. Krueger was talking about, you can get more out of the plant than the rated capacities? Is that a responsible engineering principle?

A. No, I don't think so. I mean, why do you design in the first place? To understand where you should operate your system, how far should you go. And if you're not going to -- if you're not going to live by your design, then why design?

Q. Are you presently using that portion of the plant represented by this 2,271,756? Is that presently being used now?

A. Yes.

Q. What did you do -- when the clarifier went down -- and I understand there's a difference of opinion here about what the rated capacity -- let's use Mr. Merciel's capacity of clarifier. What's that, 12-- what's he saying it is?

A. I don't know. At 1 gallon per minute per square foot. I don't know. Maybe that's 12 or 13 million gallons a day.

Q. Let's call it 13 million gallons a day.

A. Okay.

Q. What did you do when your one -- when the other clarifier went down and you only -- and you had the remaining clarifier with 13 million gallons a day? What did you, in fact, do?

A. Well, there's -- there's three clarifiers.

Q. You used the other one?

A. We used the other one.

Q. Had that not been there, what would you have done?

A. Well, we would have had to have tried to push more through. And we would have risked a boil over, which we have had, and can -- can and does happen. And we would have put a lot of solids on top of the filters and as I explained before.

Q. Now, with respect to rated capacities, what is your belief about the MGD that you have available now for system distribution at St. Joe assuming that all the plant that has been disallowed was never built? What would you have?

A. I'm sorry. Would you ask it again?

Q. Assuming that all the plant that has been disallowed was never built, how many MGD do you have available for system delivery?

A. Well, based -- based on your question, I have 22.8 million gallons a day.

Q. That's all. You have to deduct your in system usage. What do you have available for --

A. That's total. I'm basing that on 11.4 million gallons per clarifier per day. If you want to use -- do you want me to use that number?

Q. That's fine. That's fine. We'll use the most

conservative number you have. You have 22.8 then?

A. Yes.

Q. Now, in the past year, how many days did you have that where your pumpage exceeded 22 MGD?

A. Well, on Exhibit 135 I had -- I had at least four days where it exceeded 2-- I'm sorry. I had at least four days where it exceeded 22 MGD.

Q. Now, given that reality that you have 22-point something available for distribution, you're maxing out -- using over 22 right now several days a month, could you responsibly offer Premium Pork 2.7 million gallons a day with that plant?

A. No, I could not.

Q. If that was all the plant you had available and you had not built this plant that has been disallowed with rate base, what would you be doing now?

A. Well, actually I'd probably be in the planning stage and trying to get beyond that to the design stage, to the permitting stage, to the bidding stage, to the construction of the additional capacity I'd need to serve Premium Pork. And I don't know if I could get that achieved by early 2005 or not.

Q. And how much capacity would you dare to design for given the standard that we're dealing with here?

A. 2.7.

MR. CIOTTONE: That's all I have, Mr. Kartmann.

JUDGE THOMPSON: Thank you, Mr. Ciottone.

You may step down, Mr. Kartmann.

Mr. Merciel, spell your last name for the reporter -- or we've been through this before.

THE WITNESS: I've been here before, yes.

JUDGE THOMPSON: You're still under oath.

JAMES MERCIEL, JR. testified as follows:

DIRECT EXAMINATION BY MR. KRUEGER:

Q. State your name for the record, please.

A. James A. Merciel, Jr.

Q. Did you prepare and cause to be pre-filed in this case the Direct Testimony of James A. Merciel, Exhibit No. 22?

A. Yes.

Q. Do you have any corrections or changes to that testimony?

A. No.

MR. KRUEGER: Your Honor, I would offer Exhibit 22 into the record and tender the witness for cross-examination.

JUDGE THOMPSON: Thank you, Mr. Krueger.

Do I hear any objections to the receipt of Exhibit 22?

Exhibit 22 is received and made a part of the record of this proceeding.

(Exhibit No. 22 was received into evidence.)

JUDGE THOMPSON: Commissioner Murray?

COMMISSIONER MURRAY: Thank you.

QUESTIONS BY COMMISSIONER MURRAY:

Q. Good afternoon again, Mr. Merciel.

A. Good afternoon.

Q. What is Staff's position in terms of the appropriate capacity that a water company should prepare for when putting in new plant?

A. Well -- well, utilities do need to look at their growth patterns. That would be, you know, what's their present and what's expected to occur in the future. And you need to plan for some reasonable time in the future.

You know, plant needs to be -- you can't -- I think it was testified before you can't really build a plant from year-to-year or day-to-day. You do need to build so that you can serve what's going to happen in the future.

That's not to say you might -- you might plan something, but you might phase it in based on current needs or, you know, you might plan a facility for the next 10 years, 20 years, 30 years, but you might do an immediate plan for, say, the next 10 years or 5 years. In a case like a water plant -- I'm sorry, go ahead.

Q. Let me stop and ask you a question there, if I could. And in Missouri-American Water's last rate case did they not do a plan for the next number of years -- and I can't remember the exact number of years?

A. There was a plan for 10 years, but they're really looking a little bit beyond that too. And I don't know that I know a specific number.

Q. But would Staff's position be that they should not be disallowed anything that would take them to the next 10 years?

A. Well, my position in the last case was that this plant was reasonable for the next 10 years, but they didn't need all the components immediately.

And stepping back and looking at St. Joseph, considering there's -- there's really no growth at the present time -- that could change, of course, and looks like it will, but with no growth, I took the position that certain components of the 30 million gallon plant didn't need to be constructed immediately. It could be relatively easily constructed at a later time such as more wells, you know, more -- more -- more components.

Q. Is that Staff's position even when it's more expensive to add components at separate times than it is to add certain amount of capacity all at once?

A. Well, I agree it would be a little bit more

expensive to add the components at a later time, but that's offset by whether the customers need those components today or not. It's -- it's if your plant is built that way and designed for additions, I don't -- I don't think it's really all that big of a deal. It is a construction project.

Fact is they did that anyway even with this 30 million gallon plant. It's really designed as 40, 45 million gallon plant. With the three existing clarifiers, it has a space for a fourth one, you know, some day in the future. High-service pumps, there is a blank space for a fifth one to be added. It's not really uncommon to do things like that.

And I think that could have been done taking a little more -- a little farther than what the company did. Designing a structure in a basic facility, you know, for the 30 million gallons, I think they could have built the components and phased in that capacity.

Q. And is it Staff's position that had they built the plant exactly as Staff had suggested was adequate at the time in the last rate case, that they would not be needing extra capacity today for peak day capacity?

A. Beyond the 23 million gallons?

Q. Correct.

A. Yes. That is my position. What they needed then I think is -- is pretty much the same needs today. Not

counting Premium Pork. That's another -- another factor.

Q. And do you think it's reasonable to count a new industry -- regardless of whether it's a special tariff or however it's designed, if it's taking capacity from the company, is it reasonable to include that capacity?

A. Well, yes. Let me say it this way. Premium Pork will make this issue go away. They will take their capacity beyond the 23 million gallons. Premium Pork -- I'm not really sure when it came into the picture in St. Joseph. I didn't hear about it until -- until they filed for the tariff and that was in September after, you know, after testimony was prepared. So it's -- it's -- it -- it wasn't a factor at the time this was prepared.

And it's also my understanding that the water demand is -- you know, we're still looking at about two years into the future. So I still take the position that for purposes of this case, Premium Pork is not a factor. I suspect in the next case we won't be having this kind of an issue.

Q. Okay. So your position would be that even though between now and the next rate case 23 million gallons per day would not be sufficient capacity, that because Premium Pork was not a customer during the test year or the true-up period, that there should be no allowance in rate base for the capacity that serves Premium Pork. Is that

your position?

A. Yes. I would also say that that's -- today Premium Pork is still not a customer today. I look at them more as a future customer.

Q. Had they been a customer during the true-up period, is it your position that that would have changed?

A. It -- it -- it could have. If -- if the Premium Pork project -- if this was, say, six months or a year ahead of where they're at, I think it could easily have changed our position in this case -- or my position.

Q. Now, do you disagree that 23 million gallons per day has been -- the need for that amount has been exceeded at least once in the last several months?

A. Well, I really don't based on the numbers I see that I was provided by the company.

Q. You don't disagree with that or you don't agree with that?

A. I guess I mean to say I don't agree. I still believe the 23 million gallons is adequate based on the numbers that I'm seeing.

Q. Does that mean that you believe that there has not been a peak day requirement of greater than 23 million gallons on any particular day?

A. Well, my answer is yes. Let me go ahead and clarify some of that. We talk about some of the in plant

use, but the numbers that I see I believe include the in plant usage.

And my basis for saying that -- let's see here. In my testimony on Schedule 1, which I seem to have misplaced -- well, on my Schedule 1 those numbers were supplied to me by the company through a data request. I have that data request here.

And what they're giving me is raw water from each of the wells and the well pumps and another number they're calling system delivery. And I -- I think the in plant use is coming out of the system delivery. I haven't asked them that question and I don't know that for sure, but just by looking at the numbers, I -- I believe it's under 23 million gallons that the treatment plant is actually treating and what is actually treating some of that water -- they are using in plant.

I mean, the water is getting used. They do need to back-wash filters, they use it for chemical mixing and in house domestic type use and that sort of thing. So it is a real water usage, but I just don't see any numbers that tell me that the plant treatment capacity is exceeding 23 million gallons.

Q. Do you think that Mr. Kartmann was just confused?

A. Well, I don't know if he's confused or not.

Probably not anymore than I am. As I say, I don't -- looking at the numbers, I'm just trying to evaluate the numbers and that's what I am seeing.

Q. You saw the introduction of Exhibit 135, did you not?

A. Yes. I -- and I do have that right here. And that's consistent with the numbers I was provided, although I don't have those same exact dates.

Q. But is it your understanding that that was an answer -- that was an answer by e-mail to a question that Mr. Kartmann had asked to Mr. Simmons?

A. Yes. It's my understanding this is in-house with Missouri-American.

Q. And that Mr. Kartmann asked Mr. Simmons for the -- and I forget what he called it, but on the stand he stated he had asked for the number that didn't include in plant usage. Do you have any reason to doubt that that was what he asked for and this is the response to that?

A. Yeah. I don't -- I don't have any reason to doubt what he said on the stand. You know, he may have asked for something. But it does say this is the pumpage and it also says the highest pumpage dates.

And -- now, they have a date of July 11th. When I asked for it, they gave me July 16th, which happens to be the same amount, this 22 million and .005 is -- and

they were telling me they had a system delivery and that's about the same -- this is in my Schedule 1. That's about the same as the raw water pump from the wells. That's why I believe that number includes in plant usage.

Q. Okay. Assuming that it does, that still gets you pretty close to the 23 million gallons per day, does it not?

A. Yes, ma'am. It's close, yeah. No doubt about it.

Q. So is it Staff's position that that is how a plant should be designed, to be right at the maximum day's usage to meet the maximum day's demand right almost on the money?

A. Well, in -- in this case -- in the case of St. Joseph, it's my position that would be adequate. And that position I developed in the last case based on their historical usage and the fact that it's not increasing. We can talk about the projections, but that's really not occurring at this point in time in St. Joseph. And that's why I'm taking that position.

Ordinarily you do -- you do allow for some growth and you size your plant bigger so you can grow into it. But I just don't -- during the last case I didn't think that was necessary for St. Joseph given their situation. And I didn't really see any change to change my mind in this

case.

Q. So did you expect that St. Joseph would not grow for the next 10 years?

A. That's -- that's not my position. They could easily grow in the next 10 years and I think everybody hopes they do, but if they do, they can add -- add additional wells, they can add a clarifier and add a high service pump.

Those are components that -- that the plant is built so that those components can be added later on as needed. And it -- it takes a little bit of time and expense to do it, but it can be done. It's not that unusual of a thing to have to do something like that.

Q. Do you think that plant should be designed to ensure that customers don't have to go without service on a peak day?

A. Yes, I do.

Q. Do you think it's an exact science to estimate what peak day usage is?

A. Well, no, it's not. And that's why there are, you know, some factors that you -- some safety factors that you usually build in. Let me also say at this point -- and this has kind of been touched on with testimony.

When we talk about capacity, there are -- there are some components that have a firm capacity and some that have a prescribed capacity. It's kind of like the

difference between a top speed and the speed limit. And I -- I would not advocate that you design intending to exceed the speed limit regularly.

But when it's -- if it's something that's going to happen once every 10 years or, you know, very, very infrequently, I -- I think -- I think it's something that the company can handle. And that's where going back and looking at their -- the past usage, I'm --

Q. I'm sorry. How frequently did you say that would happen that you thought the company could handle?

A. I just said if it's something infrequent, something like every 10 years or every several years.

Q. Okay. Go ahead.

A. There -- I seem to have mixed my papers up. There was another -- I'm not finding it right now. There was a -- there was a water usage sheet that I had gotten out of one of the company's reports that went back to -- I believe back in '77. And the -- there were -- there were really very few days that exceeded about 23 million gallons.

Q. I'm sorry. You said it went back to what date?

A. '77. I have a copy of it here somewhere.

Q. 1977?

A. 1977, yes.

Q. Okay. And why are you going back that far?

A. Well, I'm saying that there were -- there are very -- there are very few days that exceed 23 million gallons. Some -- there's a 24, this 25 million gallon --

Q. I'm sorry. What was the first date it exceeded 23 million --

A. Okay.

Q. -- that you looked at?

A. From 1977, here's a 23.8 that occurred in '83.

Q. In '83?

A. 1983, yes. 24.39 occurred in '88.

Q. What was the capacity of the old plant?

A. 20.8 million gallons per day. I was going to say the highest number on here that I see occurred in 1991, 25.62 million gallons per day. And these were all met with the 20.8 million gallon plant.

Q. By using prescribed or prescribed capacity, whatever your term was, is that what you're saying? Is that how those days were met?

A. Yes. The plant capacity was exceeded.

Q. But there was capacity by exceeding the speed limit?

A. Yeah. Some components were running at the top speed, but things like sand filters and clarifiers, they may have exceeded the speed limit.

Q. Okay. Go ahead.

A. Well, they did. They did exceed the speed limit.

Q. Which would be wear and tear on machinery, I would assume, if it's being pushed to that degree?

A. Well, there could be some wear and tear. Mr. Kartmann was talking about some of the operational difficulties; for example, clarifier, you might get some solids that -- that will nearly settle out and you're running water at higher rates, so it can stir it up. That's all true. There is that risk.

Q. And what if something broke down when you're running at that close to capacity or actually overcapacity?

A. Yeah. Well, when you have multiple components, in most -- like a pump -- and the well field is a good example. You don't design it so that you run everything you have. You know --

Q. Not even when you're exceeding the speed limit?

A. Right. Yeah, right. Like with a pump you would have -- you would have a spare so that at your max day you still have one or two or some number that -- that are not needed so that you can handle breakdowns or emergencies.

Q. Is that what Missouri-American did when they put in more pumps than you said they needed?

A. Yes. And even the number of pumps that I say

they need, that's still -- that still has some spares on hand. You wouldn't -- I advocated five vertical wells and leave the horizontal well as is. And that's still more than -- you know, you still wouldn't be running them all on peak day.

Q. That's wells. But what about pumps?

A. Well, the -- that's talking about the well pumps.

Q. Okay.

A. There's --

Q. Shows how much I know.

A. Well, there's one pump in each vertical well. And the horizontal well, that's one facility that has three pumps in it.

Q. And your testimony on page 5 speaks about distributive pumps from the clear well to distribution. Are those different pumps?

A. Those are different pumps.

Q. And with designing capacity -- with designing plant properly would there be provision for breaking -- if one of those broke down?

A. Yes. Yes. You would -- you would want to be able to operate at max day with one pump out of service.

Q. And is that what -- is that your testimony, that with the number of pumps that Staff recommended, that

one could be out of service and still operate at 23 million gallons per day?

A. Yes. And that's -- that's in my testimony in Schedule 2, page 2 kind of toward the bottom where it talks about distributive pumps. I'm basically saying that -- that 100 horsepower should be disallowed. That could leave three 300-horsepower pumps. So if one is out of service, you would have two 300.

The nominal capacity is 14 gallons per -- I'm sorry, 14 million gallons per day for each one of those. You add that up, that's 28 million gallons per day. Based on my own observations, I would expect to see a little bit less than that if you ran two 300-horsepower pumps, but more than 23 million gallons per day.

Q. Are those the same pumps Mr. Kartmann said were rated for 11.4 million gallons per day or different pumps?

A. That was the clarifier that he gave you that number.

Q. Okay. You're right.

When the last rate case was before us, there was consideration of whether it was prudent to build the new St. Joseph treatment plant; is that right?

A. Yes.

Q. And it was decided -- and I believe it was

Staff's position, correct me if I'm wrong, but I believe it was Staff's position that, yes, it was?

A. Yes, that's correct.

Q. And why was the new treatment plant needed?

A. The old treatment plant, first of all, was exactly that, it was very old. It was in need of some upgrades and improvements anyway. In fact, the company had been looking at doing that since before 1993 when the flood hit.

But after the flood, they kind of took a look at it and said, Well, do we really want to be by the river. You know, there's -- this kind of changes the picture a little bit. You need flood protection, but there are also issues with using surface water, agricultural runoff and contaminants that are in surface water. So they made the decision to go ahead and use groundwater for the new facility.

Q. But the reason that they needed an upgrade, what was that? What was the basic reason that they couldn't just keep doing what they were doing with what they had?

A. Increased capacity and upgrading the old facility, you know. It was -- it was a 100-year-old plant. It had some problems.

Q. And it was Staff's position at that time that they should not upgrade capacity more than to 23 million

gallons per day for maximum peak day usage?

A. Well, the truth is Staff didn't come out with that position until the rate case. When the plant was planned and up into filing testimony, the Staff -- well, it was me. I was the one who did it.

But it was during the time of filing testimony and making our final recommendation in the rate case in the plant, that was when I took a look at all the capacities and -- and that's -- that's when that -- that recommendation was formulated.

Q. And would you agree that at the time you made that recommendation, that 23 million gallons per day was right at the maximum usage that they could expect at the current time?

A. Yes.

Q. And is that what Staff would ordinarily do, say build no more than to the maximum day's requirement right now?

A. No. No. That's not -- that's not what we'd ordinarily do. And that's really not exactly what -- what happened in the last case either. The 23 million gallons was arrived at, first of all, by eliminating some of the components but also looking at, again, the specific situation of St. Joseph. And that it was not a growing -- not a growing community and the water usage was not

increasing. If there had been any growth, we would not have done that, I would not have done that.

Q. Okay. But I asked you earlier if you expected no growth in the next 10 years, and you said, no, that you didn't expect that there would be no growth in the next 10 years. But earlier you also said that it was reasonable to look to the next 10 years for --

A. Right.

Q. -- capacity needs?

A. Yeah. Well, when -- when I say they -- when I -- when I say a 23 million gallon plant would have been adequate, that was the capacity of what was actually constructed. That's not to say you couldn't phase in additional components. I also said in my testimony that what they built, the facility that's designed as a 30 million gallon plant, that plant and that facility is not unreasonable.

I just thought they should have -- they could have left out some components and not utilized the entire 30 million gallons. I'm not saying that it should have been a 23 million gallon and leave it go at that. That's not -- that's not at all what my position is.

Q. But you're saying anything over 23 million gallons they shouldn't be able to include in rate base?

A. I was saying the components -- some components

that exceed 23 million gallons could have been -- that's all we did. We just eliminated some components.

Q. The company's ability to earn a return on and return of. Right?

A. Well, yes, it did do that.

Q. Is that significant to the company?

A. I'm sure it is, yeah.

Q. Going forward and looking at new plant needs, how would you evaluate a situation in another area where capacity was pretty close to maximum day needs? Should the company just wait until they were having days in which they exceeded the capacity before they start planning?

A. No. You wouldn't wait until it actually happens. You would -- you would look at your -- your growth pattern.

Q. Over what period of time?

A. Well, you definitely want to look into -- well, if I may back up a little bit. You need to take into consideration the planning time required to construct your plant. And what you construct is going to have some capacity.

Let's say we talk about Joplin. If you're constructing one well in Joplin, that's about -- it might be a half million gallon per day facility. You might construct it today so that you can -- you can grow into that half

million gallons a day. I'm not sure exactly how long that would take. That might be five years, you know, three or four years.

Q. If the company constructed it today, should they get it in rate base?

A. If they're constructing it because they're going to be growing into it within the next couple of years, yes, they should.

Q. You said maybe five -- I don't remember. You didn't say the next couple.

A. I meant to say they would be growing into the capacity and get up into the capacity of that well within the next, say, five years.

Q. Okay. But they should only recover for it if they were going to get up to the capacity in the next two years. Is that what you're saying?

A. No.

Q. Okay. You said something about two years a second ago. Maybe I'm misunderstanding.

A. Yeah. I'm not -- if I said two years, I'm not sure what I said there. What I am trying to say is when you -- a facility should be planned ahead of time before you actually need it and constructed so that it's in service before you actually need it, but at a time where your customer growth is going to be growing into it.

And I don't mean -- I don't mean you don't need it for another 10 years. I mean, if -- well, let's pick a number, 23 million gallons per day. If they expect to exceed based on growth, you know, what's actually occurring, if they expect to exceed 23 million gallons per day in two years and it was going to take one year to construct facilities to meet that, then -- then they need to be planning for it and getting it under construction, you know, before that -- that one-year period so that it's there by the time they have to grow into it.

Q. But they shouldn't recover for it unless they time it so that it occurs at the two years when they need it?

A. With that proper timing, then once it's constructed and serviced, they should be able to earn their return on it.

Q. And in your scenario is it constructed so that it will meet the maximum day capacity at the time it is put into service and no more?

A. No, no, that would not be true.

Q. Okay. Well, I'm confused. I don't think I would know what to do if I wanted recovery.

A. Well, the maximum day -- when you first construct the facility, you may not be getting to its capacity right away, but if it's one component -- let's say

one well, if you need just a small portion of it today, then you would construct it and the company should be able to earn a return on it. They may not be at maximum capacity for four or five years, but you need the facility and they're growing into it, if that makes sense.

Q. Well, are they exceeding their maximum day capacity today in our hypothetical?

A. No. No, they're not.

Q. When are they expected to exceed it?

A. Well, but you see it coming. Let's say -- let's say if you expect to exceed it next year or maybe in two years and it's going to take you one year to plan and construct the facility, then that would be a reasonable thing to do, to get going on it and --

Q. Okay. So in that scenario they get the new plant in place one year before that capacity will be their maximum day capacity; is that right?

A. Well, in that scenario -- well, if we're talking about -- I'm sorry. Could you repeat what you just asked?

Q. Under that hypothetical we just went through, the company would have its new plant in place in service one year prior to 23 million gallons being its maximum day capacity need; is that right?

A. Under that scenario it could be within the

year, yes.

Q. Okay.

A. But they're reasonably expected to be growing into that, you know, during that following year.

Q. All right. Would it be reasonable to assume that if they had a steady growth pattern, that they would be growing -- they should start then immediately because it takes a year to construct and they're a year from needing -- a year from that plant being at maximum capacity, that the minute they put that one in the ground, they need to start planning for the next one to start construction again in another year?

A. Well, it -- maybe and maybe not. Better answer is not necessarily. You would -- you would construct your new facility. It might take 5 or 10 years to grow into that facility, to get to the capacity of that facility.

Q. Well, in this scenario though it's only going to take a year once they put it in service.

A. Okay. That's not what I meant to say. I meant to say if -- if the capacity -- what you have now is going to be exceeded in a year, then you need to build your next component, your next step. Now, that -- that's not --

Q. Okay. What is that next step? How much capacity do you build?

A. That depends on the facility. It's -- as I

say, it well might be half million gallons per day, one million gallons per day. Maybe you only need a fourth of it but you can't build a fourth of a well, you know. You build it because you're getting into the -- into the capacity of that facility.

It -- it may take you five years or some number like that to actually -- to actually fully utilize it. And then you would -- you would go to the next step again, drilling yet another well. You don't -- you don't -- you don't construct facilities from year to year. It may take -- may take many years.

Maybe another example is a small subdivision where you have a single well designed to serve 100 houses. Your first year when you have 1 house, you need that well. It needs to be in service. But you're not going to be at the capacity until you have your 100 customers. And that might be five years or some other number.

When you exceed that capacity, you need a second well let's say for another 100 customers. So when you have 101 customers, you need the second well, but you won't be at capacity of that well for another number of years. You have to grow into it.

Q. When is it reasonable to add that capacity for the second hundred?

A. It's reasonable to add it when you need it.

Q. So --

A. Once you're --

Q. -- not until you've got 100 customers?

A. Once you're exceeding -- I'm sorry?

Q. Not until you've got 100 customers and you're at maximum capacity?

A. If -- well, when you have the 100 customers, when you're going to get 101 customers, you need your next well. It needs to be in service by the time that customer comes on line.

But if you look into your growth, you would have to plan for it, however long that takes, and have it in service when that customer comes on line. I -- I don't -- I don't want to sound like I'm advocating that you wait until you have a problem and then scramble to do your construction. That's not the intent of my position in this case.

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

JUDGE THOMPSON: Okay. Before we go any further, I think we need to talk about where the case is going to go from here and when we're going to finish it.

I had been hoping to go after five o'clock today, but I have some family obligations that will make that impossible, so we're going to have to finish on Monday,

it would appear.

After Mr. Merciel, we have Ms. Bolin on this issue. Correct? And then what are we doing after that?

MS. O'NEILL: Your Honor, it's my understanding that the only other issue where testimony was contemplated at this point -- and you can correct me if I'm wrong about weather -- was Acquisition Adjustment and that the parties had contemplated waiving cross on all of those witnesses in the event that there were no questions from the Bench regarding that issue. So that would leave --

JUDGE THOMPSON: Well, I spoke to the Commissioners. Commissioner Murray indicated she didn't have any questions necessarily, but Chairman Gaw was unwilling to make that commitment.

Also, I believe Commissioner Clayton will be back on Monday so at this point I'm not in a position where I can say that we're not going to have to have testimony on any part of that issue.

So it looks like -- I mean, at this point my preference would be to recess now and we start again Monday morning at, say, nine o'clock. I don't see any way to avoid it. Try to keep your shouts of joy in the bounds of decorum.

MR. ENGLAND: Can we go off the record?

JUDGE THOMPSON: We absolutely can.

(An off-the-record discussion was held.)

WHEREUPON, the hearing was adjourned until 10:00 a.m., January 12th, 2004.

I N D E X

JEFFERSON CITY FIRE SUPPRESSION ISSUES

NEW ST. JOSEPH PLANT CAPACITY COST ISSUES

EXHIBITS INDEX