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TRANSCRIPT OF PROCEEDINGS

Hearing

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Greater Jefferson City Construction Company, Inc., and Edward P. Storey,	)	
Complainants.	)	
v.	)	Case No. WC-2007-0303
Aqua Missouri, Inc.,	)	
Respondent.	)	

KENNARD L. JONES, Presiding,
SENIOR REGULATORY LAW JUDGE
LINWARD "LIN" APPLING,
COMMISSIONER

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P R O C E E D I N G S

(RESPONDENT'S EXHIBIT NOS. 34 AND 35 WERE MARKED FOR IDENTIFICATION BY THE COURT REPORTER.)

JUDGE JONES: Okay. We are on the record with Case No. WC-2007-0303, and we're continuing from yesterday, and we will begin today with Aqua Missouri's witnesses.

MR. ELLINGER: Judge, I don't think the Staff rested yesterday.

MR. KRUEGER: We have no other witnesses.

JUDGE JONES: We were done with Staff. They didn't rest but we were done.

Thanks for bringing that to my attention.

You may call your first witness.

MR. ELLINGER: Mr. Randy Clarkson, please.

JUDGE JONES: Sir, state your name, please.

MR. CLARKSON: Randy Clarkson.

JUDGE JONES: Mr. Clarkson, would you raise your right hand.

(Witness affirmed.)

JUDGE JONES: Thank you, sir. You may be seated.

DIRECT EXAMINATION

BY MR. ELLINGER:

Q. Would you please state your full name for the record?

A. Randy C. Clarkson.

Q. And what is your current occupation?

A. I'm a professional engineer employed at Bartlett & West Engineers in Jefferson City, Missouri.

Q. How long have you been so employed by Bartlett & West?

A. Over four years.

Q. And what are your duties at Bartlett & West?

A. I'm the primary wastewater engineer in our office. I handle a variety of projects, primarily the planning, design and construction management for wastewater facility improvement.

Q. Where were you employed before working at Bartlett & West?

A. Prior to working at Bartlett & West I was employed at the Missouri Department of Natural Resources here in Jefferson City.

Q. For how long did you work for the Department of Natural Resources?

A. I worked there from -- it was 25 years.

Q. What positions did you hold at the

Department of Natural Resources?

A. In the Macon Regional Office I was the Supervisor of the Water Pollution Control Unit. I did that for approximately three years. In my first position in Jefferson City, I was the Unit Leader in the Engineering Section, dealing with wastewater facility reviews, or in other words, reviews of various types of engineering documents associated with wastewater facility projects.

Subsequent to that I became an Engineering Unit Chief. Subsequent to that I became Engineering Section Chief. And for a number of years I was the -- basically served as Acting Director whenever the Director was absent or when we didn't have a Director, which happened periodically.

Q. Acting Director of what?

A. The Water Pollution Control Program.

Q. Okay. And what is the Water Pollution Control Program?

A. The Water Pollution Control Program, while I was there, was within the Division of Environmental Quality, and its responsibility was, in a nutshell, to protect the water quality of the state of Missouri.

Q. And did all these positions that you held

with the Department of Natural Resources deal with water pollution or water quality?

A. Yes.

Q. What were your duties as the Section Chief/Acting Director?

A. I was responsible for a variety of things, including management and supervision of a group of engineers, which varied in number from 12 to 15 or 16, that reviewed a variety of projects related to water pollution control, principally municipal wastewater and stormwater and concentrated animal feeding operations.

In addition to that, I was responsible for providing technical guidance, assistance and training to our Regional Office staff in the matters that they dealt with.

Q. And when you were a Unit Chief, what were your duties in the Engineering Section?

A. As the Unit Chief I was principally responsible for the review of wastewater facility projects and supervision and management of a smaller number of individuals or engineers doing similar work.

Q. And when you say review of wastewater projects, what does review of wastewater projects entail?

A. My responsibility was to review documents submitted to see if they utilized good engineering practice and were in compliance with the laws and rules of the State of Missouri.

Q. Would that just be design specifications or other laws and rules too?

A. It would -- it would include other rules.

Q. Predominantly, however, relating to the design of treatment facilities?

A. That's -- that's correct.

Q. And were you involved in the relicensure of treatment facilities also?

A. The -- I believe you're probably referring to re-permitting of facilities, which is what DNR is involved in, and, yes, I was.

Q. And did you go through a review process with respect to re-permitting of facilities?

A. The Department did. And I would get involved if there were engineering issues that the Permit Section needed assistance with, or as Director -- Acting Director, in effect, at times I would have to get involved in those types of issues.

Q. And you said you originally started at the Macon Regional Office as a Supervisor of the Water Pollution Control Unit. What did you do as a

Supervisor? What were your duties?

A. I supervised about three to four people, one engineer, one environmental specialist and a wastewater operations specialist.

And as you can probably tell from that, we did a variety of work. We did inspections, compliance inspections of wastewater facilities. We reviewed applications for construction permits. We had people that went to -- to wastewater treatment facilities.

Excuse me for a minute.

And we investigated complaints. Basically we handled the fieldwork for water pollution control issues in that region.

Q. And that Macon Region, that's been disbanded in more recent years?

A. Yes, it has actually.

Q. And it encompasses Cole County now, the region --

A. Yes, it does.

Q. What's your educational background?

A. I have a bachelor's degree in civil engineering from the University of Missouri at Columbia which I obtained in 1974. I have a master's degree in sanitary engineering which I obtained in

1981.

Q. What is sanitary engineering?

A. Sanitary engineering is the name that the Civil Engineering Department had at that time for Environmental Engineering, and it's a name that was used prior to the term "environmental," principally for water and wastewater-type work.

My emphasis during my study was on water pollution control; in other words, wastewater, because I'd already worked and knew what area I was intending to continue to pursue.

Q. Are you a professional engineer?

A. Yes.

Q. And for how long have you been a professional engineer?

A. Twenty-six years.

Q. And are you registered with the State of Missouri as a professional engineer?

A. Yes.

Q. Are you registered with any other states?

A. No.

Q. Let me hand you what's been marked as Exhibit 34 --

MR. ELLINGER: Would you like a copy?

JUDGE JONES: Sure.

BY MR. ELLINGER:

Q. -- and ask you to identify what Exhibit 34 is, please.

A. This is my resume.

Q. Okay. And it contains information regarding your work background, your current duties and your education. Is that correct?

A. That's correct.

Q. Okay. What are the continuing educational requirements for a professional engineer?

A. You have to get a certain number of hours of training every two years, and you do that by attending various training events or by conducting training.

Q. What classes have you taken to continue your education?

A. I've taken a variety of classes, mostly related to water pollution control or wastewater treatment, some related to public drinking water. Some that I've taken have been sponsored by the Missouri Water Environment Association. That's probably the primary source of the training that I've received.

Q. Have you ever taught classes for other professional engineers?

A. Yes.
Q. What topics have you taught classes on?
A. A variety of topics. Most recently on topics including wastewater treatment for small flows, inflow/infiltration studies, but I also have taught classes on specific design of wastewater treatment.
Q. Have you ever taught classes for nonprofessional engineers?
A. I've had my classes -- yes.
Q. And what topics have you taught in those classes?
A. Those would be similar topics.
Q. Have you published articles dealing with clean water issues?
A. Yes.
Q. And what issues have you addressed in those articles?
A. Well, again, water pollution control. Most -- a couple of years ago I issued -- or had an article in the Missouri Municipal League, when there was a major change coming relating to protection of streams for swimming. I was asked to do that.
So that the people involved, municipal leaders and others who have access to that document, could be informed about the upcoming change and some

of the decisions facing the Department of Natural Resources' staff and the Missouri Clean Water Commission.

Q. I notice on your resume that you've served on the Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers. Boy, that's a mouthful.

A. It sure is.

Q. What is that organization?

A. That is commonly known as the Ten State Standard, and if we discuss it any further, I'd highly recommend we use that term. It's very commonly known as that, very widely known as that, the Ten State Standard.

That's an organizations that existed for many years, and every few years it publishes a document which is widely accepted as a design guide for wastewater facilities.

Additionally, the Board oversees committees, the committee that does that for wastewater. There is also a committee that does it for water supply and several other topics. And the Board itself oversees the various committees published in those documents.

Q. Did you serve on that Board?

A. Yes.

Q. For how many years?

A. I served on the Board for several years. I don't remember the exact number. Prior to that I served on the Wastewater Committee during a period of time when revisions were made and updates were made to the standards.

Q. What roles did you serve in serving on that committee?

A. I served as chairman of the committee, updated the wastewater facilities. And I was a member of the Board subsequent to that until my -- I left the Department of Natural Resources.

Q. And you said that the committee prepared, and I presume the Board adopted, a set of standards dealing with wastewater treatment?

A. Yes.

Q. And what are those standards -- have they been adopted by the Missouri Department of Natural Resources?

A. The Missouri Department of Natural Resources' standards are actually -- well, let me rephrase that.

The Ten State Standard document is the backbone of the Missouri Department of Natural

Resources' wastewater design guide.

There are some changes in the Missouri design guide, primarily to account for the specific geographic and other features specific to Missouri.

Q. And in preparing those Ten State Standard guidelines, what process was used to come up with that information?

A. We had members from ten states and from Canada, and the board -- or the committee meets regularly. And each member goes back to his individual state or province and would bring current issues or respond to issues other people brought to the board.

And so that when it became time to update the standards, a laundry list of items that needed to be looked at and considered for revision would be on the table.

Q. Are you familiar with the regulations of the Department of Natural Resources?

A. Yes.

Q. And, specifically, are you familiar with 10 CSR 20-8.010?

A. Yes.

Q. And do you have what is marked as Public Service Commission Exhibit A in front of you?

A. Yes.

Q. And is that 10 CSR 20-8.010?

A. It's 8.010 and 8.020. 8.020 is actually the design of small sewage works, which has been the subject of most of the discussion here.

Q. Okay. And you're familiar with this regulation?

A. Yes.

Q. Okay. First of all, tell me a little bit about the process that you've gone through and your work experience in working with this regulation.

A. The regulation is -- usually it's a guide for engineers who are designing wastewater facilities. This one is for small facilities.

You will note if you look at the guide for large facilities, that this one is very much abbreviated.

The guide is -- is very important from the standpoint that a lot of consultants do a variety of work, and this gives them some good solid information to utilize for planning and design of wastewater facilities if it's not something they do on a full-time basis. So it's a very important document.

Q. Okay. And I notice that it was last rescinded and adopted in November of 1988 and became

effective in April of 1989. Were you working at the Department of Natural Resources then?

A. Yes.

Q. It's the last page of the document.

A. Yes, I was. I was just looking at the date. Yeah, I was.

Q. This CSR contains a population equivalent, doesn't it?

A. Yes, it does.

Q. And if you'd take a look at page 10 of PSC Exhibit A, and the second column, paragraph No. 4. Do you see where I'm at, sir?

A. Yes.

Q. Could you talk a little bit about what the population equivalent is?

A. It's a method that engineers can use to compare loading from different types of sources.

For example, the laundry wouldn't have population as we've been talking about recently, but there is a way of equating that, or other types of commercial and residential property.

There's a way of equating the various loads from those sources even though they might not actually have a population -- resident population.

Q. Okay. More specifically, there is a

residential population equivalent of 3.7 persons per unit. Do you see that?

A. Yes.

Q. Do you know how that number was obtained?

A. It's a number that was obtained and reviewed periodically to see basically if -- or to guide people when they're designing facilities.

Q. And if you'd take a look at the first column on that same page, there is a heading Residential, where it says single family dwellings. Do you see where I'm at?

A. Yes.

Q. And that says .17 and 75-100. What does the .17 reflect?

A. .17 is pounds of BOD per person in a certain situation.

Q. Okay. What does the 75 to 100 represent?

A. That's a range of typical wastewater flows from -- from an individual living in a dwelling.

Q. And do you know how those numbers were arrived at?

A. Uh-huh. There is -- as you might expect, the Department sees lots of applications, lots of data, and those numbers reflect the typical loading or flow of 75 to 100 from -- from an individual, and it

includes an inflow and infiltration allowance.

Q. And why does this population equivalent and these loading and flow per person numbers exist in the rules and regulations of the Department of Natural Resources?

A. As a -- as a way of guiding people who are involved in designing or otherwise involved in evaluating wastewater treatment facility capacity.

Q. There has been a lot of discussion about using actual population data for determining capacity of treatment facilities. Would you recommend using actual census data to determine capacity at a treatment facility?

A. I think you can take it into account. Certainly a treatment facility is designed for at least a 20-year period. And if you're going to use that data, you certainly need to know how the specific data that you have relates to what the actual data is going to be for a year, any year in that 20 years.

In other words, if their data represents a below average population year or an average population year, then you're going to have some issues in that high population year.

So if you're going to use data -- it's perfectly okay to use data, but you have to take into

account what that means.

Q. And census data, it's a snapshot type of collection. Is that correct?

A. Yeah, that's -- I believe so.

Q. And how does that snapshot count vary over time in your experience?

A. Well, it does vary. And, you know, it can go up or it can go down. It certainly changes over time. We all know that as people move in and out of houses, it's not going to be a constant.

Q. When you were looking -- when you were looking at determining capacity of a specific treatment facility, what would you use to make that determination?

A. I -- I would -- would look at the population data if available, but I would add a percent to that because of the knowledge that -- you know, you're not going to design for the average condition, you know, in terms of population.

Q. And let me follow up on that. You say you're not going to design for the average condition. Why do you not design just for the average condition?

A. Well, it's easier to explain in terms of structures than wastewater.

But, you know, I can assure you that when

you drive across the bridge, it wasn't designed for the average traffic pattern.

Now, wastewater is not as conservatively done as is structures, but you certainly do look at what, you know, you expect the loading to be over the life of the facility, and you wouldn't use an average population year or a low population year for that.

Q. You'd use a higher population year?

A. Sure.

Q. And for what reason would you use the higher population year?

A. So that the treatment facility would have capacity under those conditions.

Q. Okay. So it's a safety factor; it's a margin being built in to ensure the facility can treat --

A. I wouldn't characterize it that way. The fact is populations vary, and an operator of a treatment facility has to be able to operate in the high population year, whether -- typically that's 20 years out, but, you know, it's not always. In some cases it's just a population that's varying.

Q. And do you have knowledge about the Quail Valley wastewater treatment facility?

A. Yes.

Q. Did you prepare a report regarding the capacity of the Quail Valley wastewater treatment facility?

A. Yes.

Q. What did you do to prepare that report?

A. I reviewed various file documents, including letters, reports and permits. I visited the facility. I took some dimensions at the facility, looked at the various components.

I also looked at the sewer system. I looked into a number of cleanouts of the sewer system. I looked at the lift station, looked at the way the lift station is pumping to the system, those types of things.

Q. So you made a pretty thorough inspection of the system itself?

A. Yes.

Q. Okay. What kind of treatment facility is the Quail Valley wastewater treatment facility?

A. It's an extended aeration wastewater treatment facility.

Q. And for the rest of us in the room, what does that mean?

A. It's -- it's a package plant that incorporates an activated sludge process, and a

specific method is a long -- a fairly long detention time in the aeration basins, which is where the term "extended aeration" is derived from.

Q. And are there septic tanks on the system also?

A. Yes.

Q. What's the purpose of the septic tanks?

A. The septic tanks are really primarily to the collection system, the design of that, although they certainly influence the wastewater treatment plant also.

But the septic tanks were -- actually, aeration tanks were initially but septic tanks now.

But the purpose is the same all along, was to remove solids, so that a much smaller than typical sewer system could be installed.

The sewer system uses four-inch pipe, at least in the main lines, and it was always planned that way, to utilize four-inch lines in the main lines. And in some cases there are variable grades, which means they literally surcharge.

And so it's quite important that the septic tanks be in service and be maintained regularly.

Q. And it's important for them to be in

service and maintained regularly simply to make sure that the facility properly operates. Is that correct?

A. Yes.

Q. I've handed you what's been marked as Exhibit 35. Do you have that in front of you, sir?

A. I do.

Q. Is that a copy of your report from the wastewater facility at Quail Valley?

A. Yes.

Q. And is this the report you referred to that you prepared for this matter?

A. Yes.

Q. And can you kind of walk through this report a little bit and explain how it's laid out? I see there is an Introduction and Background Information. What does that represent?

A. The Introduction, of course, this describes the purpose. The Background Information lists what I consider to be some very significant documents in the file relative to the study that I was conducting. Everyone listed is attached to the report.

Q. And these are -- you reviewed other documents beyond these, did you not?

A. Yes, I did.

Q. Did you attach every document you reviewed to this report?

A. No.

Q. Okay. And what was the reason that you put these particular documents as attachments to your report?

A. Well, it became evident to me during the process of my investigation that there was a hydraulic flow issue at the wastewater treatment plant, specifically with the clarifiers, and going through the file there was a number of documents that related to that in one way or another.

Q. And I want to come back to the hydraulic flow issue, but I'd like to get through the report real quick, if we could.

The next topic or next heading is Discussion. What does the Discussion entail?

A. Basically I talk about the various -- well, I think I discussed almost each one -- or probably each one of the things attached and their relationship to both the amount of water that gets to the treatment plant and the ability of the treatment plant to deal with that water.

Q. And then you come to the Conclusion. What is your Conclusion?

A. As it relates to the treatment plant, I indicated that it's somewhat of a gamble to assume that reserve capacity exists in the wastewater treatment plant for additional flow, and that while it may be reasonable to connect the few existing undeveloped lots intermingled in the present developed area, adding additional sewers to new residential areas is not advisable.

Also, the Department of Natural Resources may determine that they cannot issue the construction permit for additional sewers without a wastewater treatment expansion or -- and this is a very important point -- or the application of more stringent influent limitations.

Q. Well, let's talk about each of those parts of the conclusion. You say it's a gamble to assume reserve capacity. Why is it a gamble to assume reserve capacity?

A. Well, the type of plant constructed is what is a package plant, as we've discussed, and it incorporates a type of clarifier that has a very limited hydraulic capacity.

And, in fact, the analysis of the loading of that clarifier requires the application of very specific criteria of the overflow rate.

And that is based on experience, that if you apply more water than that, you end up washing this activated sludge out of the clarifier periodically.

Q. Can you kind of explain how the clarifier works?

A. Sure. You have the aeration basin where you have activated sludge. The activated sludge is simply microorganisms. The source of the microorganisms is actually our body.

They utilize the pollutants, specifically the BOD, for food, and they convert that into gas, off gases and additional cells, additional microorganisms.

And the mixture is called mixed liquor, which isn't important. But the mixture of activated sludge goes into the clarifier and several things happen there. Settling occurs and that's important. But the more important part is the thickening of the activated sludge and the return of that activated sludge to the aeration basin.

And you have to have both of those components working right, designed so they work effectively and operate properly for the plant to work right.

Q. You indicated you had concern about

additional flow, and is that what I heard called hydraulic loading?

A. Yeah. Yes.

Q. What size clarifiers are on the Quail Valley wastewater treatment facility?

A. They're 72 -- there is two. They're 72 square feet each.

Q. And there has been some discussion through the testimony today and yesterday talking about the -- basically the flow capacity or the hydraulic capacity of the clarifiers at Quail Valley.

Are you familiar with what hydraulic capacity of the clarifier is?

A. Yes.

Q. What is the hydraulic capacity of the clarifier such as that at Quail Valley?

A. They're rated a design average flow, and in this case that would be the design average flow for the peak year of flow for the term that plant is anticipated to operate for.

That peak year not only includes the base flow, the water usage, but it also includes an allowance for inflow and infiltration. That's part of the base flow.

The rating of the treatment plant, this

type of plant, is based on 150 gallons per square foot per day.

Q. And where does that 150 gallons per square foot per day come from?

A. That is in the current rule. If you go back in time far enough, you don't find that.

And it's in there because it was learned from experience that a number such as that was needed to prevent the washout of activated sludge from these types of systems into the streams of Missouri.

Q. And there was some discussion yesterday by Mr. Haug, who was the Complainants' expert, that the clarifiers can handle 800 gallons per square foot.

Do you know where he would come up with a number like 800 gallons?

A. The only place I'm -- and I'm very familiar with the rules. The only place I see 800 has to do with the design of some facilities in the large guide, actually the nitrification-type facility.

Q. What was that again?

A. Nitrification-type facility, which has nothing to do with this situation.

Q. Does the 800 gallons per square foot have any application to a small system treatment facility such as Quail Valley?

A. No.

And this is a key point. When you go to the guide that uses 800, as I indicated, that guide is longer. It's not as abbreviated.

There is an expectation that, you know, people using that guide would be familiar with some of the additional requirements related to the design of an activated sludge plant.

If you're going to use the large guide, you have to go through an analysis of the solids loading, which, in other words, basically how much stuff goes in the clarifier. Can you get it all out of there?

And this is a very specific way of calculating that that is tried and proven, and in most consultants' experience actually use a smaller number that is in the guide, but you have to -- there is a -- and that almost always controls the size of the clarifiers and their size in accordance with the large guide.

Q. And when you talk about "the large guide," if you have a copy of PSC Exhibit A in front of you, which is the small guide regulations. Do you see --

A. Yes.

Q. At the top under Purpose it says, "These criteria are not necessarily applicable to the design of works having daily flows in excess of 22,500 gallons per day. For works having larger flows . . ." -- it relates to several other CSRs -- ". . . reflect the minimum applicable standards."

A. That's correct.

Q. And those other CSRs that are referenced, those are what you're calling the large system guide?

A. That's the common term applied to the guide. There is ten or eleven specific rules depending on what specific topic you're talking about, that's correct.

Q. And the treatment facility at Quail Valley has a design flow of how many gallons per day?

A. 22,000 gallons per day.

Q. So it stays just barely within the small sewage system rule?

A. 500 gallons.

Q. If additional flow were to push that over 22,500 gallons, what would have to occur?

A. As Brenda Bethel mentions in her letter, which is attached to my report, they would fall under the large guide for the entire review of the process,

and they would basically be building a completely new plant.

Q. Okay. When you're talking about the capacity of the clarifiers at Quail Valley, do you have an opinion as to whether there is excess capacity in those clarifiers?

A. Yes.

Q. And what is your opinion?

A. It's as per the report. I -- I think it's reasonable that some of the existing lots that already have sewers in them can be connected, and there is a good likelihood that the plant would -- with real good operational maintenance would be able to meet those limits. I would not go beyond that.

Q. Okay. You talk about the Department of Natural Resources issuing construction permits to additional sewers. Do you recall that part of your report?

A. Yes.

Q. What's the process that the Department of Natural Resources goes through to issue that construction permit?

A. Well, first of all, they have to have an application.

Q. And let me stop you there. An

application with whom?

A. They have to have an application from the person wanting to build the sewers but signed by the continuing authority, indicating that they're -- basically their certification that they have the capacity for the entire area that is going to be sewered by the sewer extension.

And the application goes to the Missouri Department of Natural Resources, in Macon in this case.

Q. And do you know what process the Missouri Department of Natural Resources goes through in evaluating that construction permit application?

A. Sure. They rely heavily on the application, but they obviously do a file review to determine, you know, if that information they received with the application is consistent with the file.

In this case, as I've indicated, the capacity of this plant is well established originally and nothing has changed out there.

Q. So does DNR do a separate review of the capacity of the plant when they review an application for a construction permit?

A. They would certainly review the application to determine if the treatment plant has

adequate capacity for issuance of that, and there is any number of people looking over their shoulder to make sure they do that.

Q. In this case the Complainants want to add 32 new connections to the wastewater treatment facility. Do you agree with that recommendation?

A. No.

Q. And why do you not agree with that recommendation?

A. It's my belief that the wastewater facility would be hydraulically overloaded if you added 32 additional homes to that facility.

Q. And I want to make sure that we're clear here, because you've talked about hydraulic overloading.

Your concern is not with, I guess as it's called, organic loading?

A. No. Now, DNR -- DNR has an issue with that as evidenced by the file. My concern is the hydraulic capacity of the plant and specifically the final clarifiers.

Q. When the Department of Natural Resources does its review of the construction permit in the capacity, is it going to use the 3.7 person residential equivalent?

A. Unless --

MR. LUDWIG: Objection, calls for a conclusion.

JUDGE JONES: Objection sustained.

BY MR. ELLINGER:

Q. In your experience in working at the Department of Natural Resources, have you been involved in and overseeing reviews of construction permit applications?

A. Yes.

Q. Have you been involved in overseeing determinations as to what the capacity of the plants are subject to those construction permit applications?

A. Yes.

Q. And what residential population equivalent do you use in doing those evaluations of plant capacity through that permitting process?

MR. LUDWIG: I'm going to object again, Your Honor, for the same reason. His experience is five years ago. He's been out that long, or four years ago with DNR.

JUDGE JONES: The rules are almost ten years old now, from '99.

MR. LUDWIG: Well, actually I think they -- I think they just established they were in

'88. But, I mean, he's been gone for five years. He doesn't know what they do now.

MR. ELLINGER: I think he can testify to what his experience has been in the review of the applications.

JUDGE JONES: He can testify to that. We all know what the number is anyway.

Objection overruled.

THE WITNESS: You would use 3.7 unless you had good documentation that a professional engineer was willing to sign and seal and that they agreed was valid to use a lesser number.

BY MR. ELLINGER:

Q. Okay. Are you aware of, in your course of review and preparation of your report, any signed and sealed documents from an engineer reflecting a number lower than the 3.7 population equivalent?

A. No.

Q. In your opinion would you recommend guaranteeing a number of connections to a developer with any other person in excess of 80 at the Quail Valley wastewater treatment facility?

A. That's a difficult question, because for some reason there is now 90 lots, even though the original permit was for 80.

And as I've indicated in my report --

COMMISSIONER APPLING: Sir, if you could use the microphone so I can hear you.

THE WITNESS: Oh, I'm sorry.

COMMISSIONER APPLING: Good morning.

THE WITNESS: Hi.

I think they could, as I've indicated, with good operation maintenance, continue good maintenance of the septic tanks, continue good maintenance of the sewer system, I do think it would be reasonable to go ahead and hook up those additional vacant lots.

BY MR. ELLINGER:

Q. Okay. And the additional vacant lots your understanding is 12 vacant lots or 10 vacant lots?

A. Ten is what I thought it was.

Q. Ten. Excuse me. Thank you.

Is industrial loading included in the design guide numbers?

A. No.

Q. And what is industrial loading?

A. Well, industrial loading is loading from -- as the name implies, from the industry. And you need to be careful that if you have -- you can

have an industry that's a dry industry. Maybe they make air filters or something. They don't have a source of water pollution. And then that would basically be like a commercial loading.

But industrial loading, when it comes from an industrial process, is not included in the design guide numbers. That's a separate number that has to be added.

Q. Okay. And there is no relevance to the industrial loading with respect to residential treatment facilities, is there?

A. No.

Q. Would your answers be the same if we talked about commercial loading?

A. Commercial loading in the small guide is not included either. It's the -- I believe it was page 10 perhaps. Yes, it is.

Where if you don't have actual data that you feel comfortable relying on, what you do is you can use these numbers which give you the organic loading and the anticipated flow from things like restaurants or bars or hospitals and other institutions, nursing homes, et cetera, et cetera. And so you account for that separately from the number for residences.

Q. Do these design guide numbers that are in 10 CSR 20-8.020 include normal inflow and infiltration?

A. Yes.

Q. And kind of explain the process for why normal inflow and infiltration be included in these numbers.

A. Well, because it's a known fact. And so when a group of people sits down and does a guide, it's just wise to incorporate that.

And the reason for that is, it's intuitive to assume that sewer lines are tied. You don't get extraneous water. And that's what people always do, and that's understandable. That's the way they view it, but it's not realistic. It's not what actually happens.

And it's well known by people who have dealt with wastewater collection systems extensively that I & I is a fact of life.

Q. And in the work you've done with respect to wastewater treatment facilities, do you build in an allowance for I & I?

A. Yes.

Q. Roughly what amount is that allowance?

A. A good target number is 20 percent. I've

seen people use as high as 50 percent. It may have been an older existing collection system where they do take steps to reduce the I & I, but just recognizing, it's also very well established what -- what the capability is to control and reduce I & I.

There is a little bit of variation, but we have done this for so long, for so many years and so many projects, it's pretty well established what the range of expected improvement and reduction of I & I is when you have a proposal to correct it.

So 20 percent is a good number, but, you know, it can be 15 percent, 25 percent. It's certainly not zero.

Q. When you were at the Department of Natural Resources and in your experience in working with the Department of Natural Resources, had they accepted hydraulic capacity calculations where there is no allowance for I & I?

A. I wouldn't. And -- and -- I haven't been there for five years, so I can't say they've never done it. But I wouldn't recommend it, and I don't think the experienced staff would.

Q. Why do you think that that's the case?

A. Because they understand how important it is.

As a matter of fact, I'm presently serving on an advisory committee to the Department. Basically it was called to a special meeting recently.

And the reason is, the EPA is taking action regarding this very topic that we're talking about.

So this is a very current topic. The Department is looking at this in each and every application they receive currently.

Q. When you say they're looking at this, they're looking at the I & I calculations?

A. I & I.

Q. And there was some discussion yesterday -- and I think you heard some testimony -- that Staff made a calculation of capacity using the waterflow through the water meters and dividing it by the number of houses. Do you recall that testimony?

A. I sure.

Q. Would you agree with using that type of calculation to determine capacity at a treatment facility?

A. Well, I think it's good to have that information, that that's valuable information, but I certainly would not use that without an I & I allowance.

Q. We've talked a lot about hydraulic loading. Have you ever conducted a wastewater flow study?

A. Yes.

Q. What is a wastewater flow study?

A. The wastewater -- there is protocol for conducting a wastewater flow study. And what you do is you put flow meters in the system at various locations. How many meters depends on how big the system is, what the purpose of your study is, et cetera, et cetera. It can be a lot of meters.

The meters measure the flow in 15-minute increments, which gives you 96 data points per day.

You also try to do this since -- since the hydraulic capacity of wastewater collection in treatment facilities is so closely linked to wet weather, you try to do this during the time of the year when you're most likely to have wet weather conditions.

And, for example, I would never do one in July because -- or August -- or you might start one in September, but that would be -- it would be foolish to do it at that time of the year for obvious reasons. You know, the rain is absorbed into the ground.

You get your I & I -- the main time of

year when you get it is in the spring. If you're in a real bind to do a flow study, you can try to do one in the fall, but it's -- it's a little more of a hit-and-miss proposition, that you're actually going to get that kind of conditions that you're looking for.

In addition to the flow meters, you have to have maintenance regularly on the meters, because as you might expect, they tend to clog up, and you have to find somebody willing to maintain them.

And you have to download the data periodically. You have to maintain the batteries. You have to check and make sure it's working properly and calibrated properly.

Additionally, for this data to be really useful, you have to have a meter that measures rainfall in the very specific area where you're doing this on a similar schedule; in other words, 15-minute increments.

Now, there are other ways of getting that rainfall. If you're in a big city and you have real good radar and things, you can -- there actually is some other ways you can enhance that.

But for the typical smaller projects that I work on, it's what I use, a rain gauge that measures it in 15-minute increments.

Q. And I presume there is a substantial cost to doing a wastewater flow study?

A. Right, there certainly is.

Q. And these meters that you're talking about, are they things that most people just have on hand?

A. No.

Q. How do you go about getting one of these meters?

A. Well, there is some issues with -- I've ran them and I know we rent them. We have the company that we rent them from do the initial installation.

And if we can't take them out without entering the manhole, we have to have them remove them too.

So I rent the meters. They cost $20 a day, plus there is extra per meter, plus there is extra costs for installation and removal and if they have to make extra trips for various things.

There is -- actually, some of the software is proprietary. Sometimes there is a cost associated with the software that you need to analyze this data.

Q. And how much lead time do you need to prepare to do a wastewater flow study?

A. Well -- and the reason I'm pausing, if you would choose to do one at the wrong time of the year when the subcontractor is not busy, he'd probably be glad to come out pretty quick.

But if you wait until the right time of the year, if you wait too long, you're going to have difficulty even getting a subcontractor.

So there is quite a bit of variation. You need some good long lead time so that you can get a commitment on the availability of the meters and the other items that you need.

Q. And do you know roughly how much that long lead time to be?

A. I like to tell them before -- I usually start full studies in March, and I like to tell them before the end of the other calendar year; in other words, November, December.

Q. Okay. And in this case are you aware that Mr. Haug, I believe it's Petitioners' Exhibit 12, submitted his report in mid September -- excuse me -- his letter in mid September to Tena Hale-Rush? Have you seen that document?

A. I believe you're --

Q. Petitioners' Exhibit 12?

A. Yes.

Q. Okay. And in your review of documents in preparing this report, is this the first document you've seen that discussed capacity at the treatment facility aside from using the DNR regulation numbers?

A. Well, I'm not sure if it's the first one. There is several other documents from original designers and things. I've seen this document but . . .

Q. Okay. If you had viewed this document and been retained shortly after the receipt of the document, you review it, do a wastewater flow study, do you think it would be possible to have that study done, finished, evaluated and reported on by this time?

A. No.

Q. I would also like you to take a look at what's been premarked as Petitioners' Exhibit 13. It's document that says Table 1, Quail Valley Wastewater Treatment Plant, 1-Year Flow Data.

Do you have that document?

A. Do you know which stack it's in?

MR. ELLINGER: Can I assist the witness?

BY MR. ELLINGER:

Q. Can you find it?

A. Exhibit 13.

Q. Yeah. It says Petitioners' Exhibit 13 in the lower corner there.

A. There we go.

Q. Do you have that document in front you?

A. Yes.

Q. Have you had the opportunity to review this document?

A. Yes, I've looked at this document.

Q. Okay. Do you know what this document represents?

A. This is the flow data -- the effluent flow data from the wastewater treatment plant collected in accordance with the requirements of the wastewater operating permit that flow data be reported, although it is not a permit limit.

Q. Okay. And do you know how these -- this flow data is obtained by the operator?

A. There is a -- there is a V notch on the weir, and the operator reads the level. Then he has a chart. He gets the flow off of the chart based on the level of the weir.

Q. Now, you talked earlier about when looking at capacity of a treatment facility, you need to look at peak flows. Is that correct?

A. Yes.

Q. What time of day tends to be the peak flow time of day?

A. I would concur with the testimony we heard yesterday, that there is two peak flow situations.

One is when people get up. They immediately use the restroom and take a shower, from my experience, and that's a big part of the water use in the morning, when they first get up. It's a real intense water usage and wastewater flow time period.

The second peak occurs in the evening, and occurs throughout the whole evening, until people -- right up until they go to bed.

Q. In your experience what does that second peak represent?

A. Well, it's -- and we all know, you know, you're having dinner, washing the dishes. You might have some laundry to do. You might go mow the yard and get sweaty, take a shower.

So you've got people also taking showers in the evening. You've got people at home. They're using the restrooms. You've got all of those types of uses and others.

Q. Okay. In looking at Petitioners' Exhibit 13, do you see a column saying Sample Time?

A. Yes.
Q. What does that represent, do you know?
A. It's the time of day that the flow was read.
Q. Okay. Do you see sample times in there that are in the evening?
A. No.
Q. Okay. In your opinion is flow data that excludes evening samples reliable?
A. It -- well, no, not only that, but it doesn't get to the heart of the morning. And it's really a matter of logic when you think about this.
Q. Go ahead and explain how it doesn't account for the morning.
A. They have a worker who gets up at home, does like we all do, use the restroom, take a shower, takes the kids to school, whatever, drives to work, and then at some point after that drives out here and takes an instantaneous flow measurement after he has done all of the things that we know cause this peak.
Well, he's not alone. That's the key point. What you've got is instantaneous readings during the tail end of the morning, and as has been discussed yesterday, and I concur, during the time of day that's a very, very low flow period.

Q. And as a result, the low flow period, the flow data and the averages that might be obtained from that are going to be low in your opinion?

A. Yes.

Q. And in your professional opinion would you rely on that flow data to determine the capacity of the wastewater treatment facility?

A. I would use the data, but I would keep in mind the limitations of the data. I certainly wouldn't use it alone since -- since I believe it represents a below-average number and does not reflect the actual flow that occurs at the treatment plant.

A lot of treatment plants have a chart that shows you the flow throughout the day, and you see peaks and valleys that match up to, you know, the human activity in the community, and then you have a total flow that's accurate.

MR. ELLINGER: No further questions of this witness, Judge.

JUDGE JONES: Commissioner Appling, do you have questions?

COMMISSIONER APPLING: I came in late.

JUDGE JONES: I just have a couple questions.

QUESTIONS

BY JUDGE JONES:

Q. When did you come to be involved in this case?

A. In July.

Q. In the conclusion part of your report, the first sentence is, "The existing wastewater collections system is over taxed at present."

A. Yes.

Q. What does that mean?

A. That's -- Judge, that system was built -- it wasn't cheap -- small pipes, and then to use those small pipes they had to put in septic tanks to remove solid. It's the only way it works. And it still takes high maintenance.

The bottom line is, that system has very limited hydraulic capacity. We don't have the asbuilts. And we heard some numbers yesterday about what the capacity might be, but we really don't know what -- and that's under ideal conditions and certain assumed head conditions, which we don't know for sure.

And I looked in some cleanouts, and you can see evidence of where the water is, where the water has been, because sewage has solids in it. You can see if it comes up in the cleanout.

And it's apparent to me that there is

some hydraulic issues within the collection system.

And I don't know that this is disputed, because if you think about the testimony yesterday, Mr. Haug was very careful to say, any additional homes from new sewers should be pumped directly to the treatment plant and not connected -- in effect, not connected to this sewer line.

He was -- he stated that several times, and it obviously was a fairly important point that he wanted to make, and I concur, that there is some issues with that collection system.

Q. During your testimony just now you thought it would be okay to add ten more homes that are already there or something?

A. I said that, and I do that reluctantly. But, realistically, when you have homes with lots -- or I shouldn't say homes, but vacant lots that are on the sewer, somebody bought that -- the reality is, it's not practical not to let them hook up.

Now -- and it's -- you know, they probably won't all hook up, but some of them probably will.

And we're basically looking at a fairly small additional load to the treatment plant. I'm not thrilled about that, but the practical fact of the

matter is, I think that's probably what is eventually going to happen.

Q. So your opinion, then, is that those additional homes will go straight to the treatment plant?

A. Yes.

Q. Okay. Not through the system that's now overtaxed?

A. Oh, no. I'm sorry. They would -- they would go through that collection system.

Q. Well, it sounds like some of the homes need to come off the system according to your testimony, if it's overtaxed. I mean, there is too much in there now. Right?

A. Well, that's -- you know, it's not going to happen.

Q. I'm not talking about what is practical. I'm talking about what is theoretical.

A. Well, you're hitting on a good point. And the fact is, at some point in time I think there is going to be a lot more money spent at Quail Valley Lake in the future.

JUDGE JONES: Okay. I don't have any other questions.

Commissioner Appling.

COMMISSIONER APPLING: Let me haggle him just a little bit.

THE WITNESS: Don't hit too hard.

COMMISSIONER APPLING: I can't stand no big punches myself.

QUESTIONS

BY COMMISSIONER APPLING

Q. I'm sorry. I had agenda this morning and I didn't get down, and I want to make sure that I can place your testimony with your face when I read what you've said so far.

So give me a little background on what you've been doing and how you got to where you are. Not a long dissertation, just five minutes or so of what your background is and how you've become the expert that you call yourself. Okay?

A. Well -- you said the short version?

Q. Yes, give me a very short version.

A. I have a degree from the University of Missouri in civil engineering.

Q. Right.

A. I worked for the United States Public Health System for three years doing design of wastewater facilities of sizes similar to this one, and the collection system and the wastewater system.

Then I worked in the Regional Office of DNR for three years.

Q. That really makes me suspicious, but go ahead.

A. Then I returned to school and received a master's degree from the University of Missouri at Columbia. And this next part is really going to make you suspicious just based on what you just said.

I was in the Department of Natural Resources Engineering Section in Jefferson City from then until about four years ago, when I was basically the Chief Engineer for the Water Pollution Control Program, and I had a variety of duties.

Q. Right.

A. And currently I work as a planner and designer and construction manager on these types of projects.

Q. Give me your name again, please.

A. Randy.

Q. Randy?

A. Clarkson.

Q. When did you -- did you retire from DNR?

A. Yes, sir.

Q. When did you do that?

A. In August of 2003.

Q. 2003. Okay. So we crossed trails someplace, with me running into all of the buildings and stuff in the State.

A. I spent a lot of time in your buildings probably.

Q. But putting everything aside, Randy, what I'm looking for here is a way for the company and for the gentleman at Quail Valley out here to be able to fix things and get on down the road here. You know what I mean?

We can make a lot of noise and the attorneys can get up and be sophisticated with big words and all that, but that doesn't hook up any houses.

And I'm looking for some ways and, you know, my whole issue is that we need to take a hard look at the tariffs, because I think there is some work that needs to be done.

You know, you bring in your experts and somebody says we have capacity for 33 more houses or 40 houses, whatever the case is, and you get up and say, I'm suspicious that we should hook up any more houses, maybe 10 or whatever the case may be. We don't seem to get there, you know.

So what I'm really looking for is just --

this is Lin Appling and it's not really speaking for the Commission.

But I'm looking for a way where the company and the contractors or developer can become user friendly and sit down at the table and come up with ways without violating the Department of Natural Resources, and I'm all for that. I'm all for making sure that things are done according to the regulations and all that.

But sooner or later we have to move off the stump. Do you agree with me? As long as we're not violating the law here -- and I would never allocate that we should do that. And maybe I'm talking more for myself just to hear my head rattle instead of doing what is necessary here.

But taking Quail Valley out there as an example, what do you see wrong with what has been proposed here?

A. With what has been proposed?

Q. Yes.

A. As I've indicated in my report, I think they should probably proceed with the ten homes. I am opposed to connecting any additional homes beyond those. I do not believe the Department of Natural Resources will issue the permit. I think the process

of applying for the permit will open a can of worms regarding antidegradation, I & I, a whole variety of issues that are currently on the table in 2007 that weren't on the table when the original application was made.

I most strongly suggest that we don't go down the path of adding a new sewer extension to this treatment facility.

Q. Okay.

A. And I can't answer the other issues -- the larger issue you have about, you know, how to resolve the issue that kind of is behind the larger issue, behind, you know, the result of this happening, but I can address the specific project.

COMMISSIONER APPLING: I understand.

I suppose in looking for a solution here, you know, that it seems to me that we're chasing -- kind of chasing a tail here coming up with a solution for this development so that we can move forward.

You know, how you ended at that, rather than going to the point of saying something wrong here this morning, so I'll just stop.

Okay. Thank you very much.

THE WITNESS: Thank you, sir.

JUDGE JONES: Mr. Krueger, you may cross.

MR. KRUEGER: Thank you, Your Honor.

CROSS-EXAMINATION

BY MR. KRUEGER:

Q. Good morning, Mr. Clarkson.

A. Good morning.

Q. Do you have a copy of the DNR design rule --

A. Yes.

Q. -- with you?

On page 1, and the Purpose -- I'm sorry. It's page 3. Rule 10 CSR 20-8.020. In the Purpose it says, "This rule sets out criteria as a guide in designing and constructing small sewage works. These criteria are not necessarily applicable to the design of works having average daily flows in excess of 22,500 gallons per day."

A. That's correct.

Q. What do you understand is meant by the term "average daily flow"?

A. That is the design average daily flow for a year, and it includes inflow and infiltration allowance.

Q. Where does it say design average daily flow?

A. Well, you asked me what it meant. It's

the average daily flow.

And the reason I said that is because you look at the design here -- and that's an important point, whether it says it there or not. That's the obvious implication.

Q. That's an important modification saying design average flow versus average daily flow, is it not? That's crucial in this case.

A. Well, we're talking about a treatment plant and the ability of the treatment plant to meet effluent limitations, and it is important and that is good engineering practice.

Q. This rule pertains to design of small sewage works. Right?

A. Yes.

Q. Are we designing a small sewage work now?

A. If we issue -- if we apply for a construction permit, we are going to go through the process of we, someone who applies for the construction permit, prepares those engineering documents is going to have to go through the process of demonstrating to DNR in effect the same things you would as if you were building a new treatment plant, that's correct.

Q. The same as if you're designing and

building a new treatment plant?

A. Similar to that, yes.

Q. Similar to it. Is it the same or not?

A. Well, it's not exactly the same, because when you're building a plant, there are other things you're talking about, like is it a concrete or steel structure. Those are all existing. The analysis that we're talking about is the same, that of capacity.

Q. The rule does contemplate the fact that you might have actual data. Is that not correct?

A. Yes, it does.

Q. And on the basis of this actual data, the DNR might deviate from the standards that -- from the design standards that are utilized in the absence of data. Is that not correct?

A. That's correct.

Q. So the time when you would have actual data is when there is an existing plant and new construction there. Is that right?

A. What do you mean by "new"? I'm not sure I followed that part about new construction.

Q. You're talking about what the DNR would do if there was an application, and you said it was for a new plant.

I'm trying to distinguish whether it's a

new plant or a modification or expansion of an existing plant.

A. Well, some new plants are for new collection systems similar to this one when it was built. Some new plants are, for example, to replace this one if the Department would say you have to meet antidegradation and other issues that this plant can't achieve or that you have to go to a larger clarifier.

Then we'll be talking about a new plant in this project. So you can have -- with the existing collection system. So you could have both circumstances.

Q. You agree, though, that the DNR would look at the actual data that is available for the area to be served and for the existing facility, would you not?

A. Yes.

Q. Okay. So when they talk about average daily flow, I think you modified that to say design average daily flow?

A. Well, you asked me to define what it means. Don't say I modified it when you asked me to define it. That's what it means.

That number is used for the design year. So if you want me to explain what it means, I'm going

to use that term because that's accurate.

Q. Okay. So you're saying that when the -- the purpose of the rule says having average daily flow in excess of 22,500 gallons, it means having design average daily flows in excess of 22,500 gallons?

A. The implication of it is -- and I'll give you an example. Let's say you had a treatment -- a facility with 20,000 gallons per day as the initial average daily flow, the 20-year design.

And in 20 years you predict the average daily flow as 30,000 gallons per day. In that case you use the large guide.

Does that answer your question?

Q. What is the average daily flow at Quail Valley Lake?

A. The permitted average daily flow is very well established. There are a number of documents in the file that led up to the issuance of a construction permit. Operating permits have been reissued. So the permit average daily flow is 22,000 gallons.

Now, is that what you meant?

Q. No. No. I'll ask you a question to follow up on that.

The Missouri State operating permit, which is Exhibit 8 in this case, at the bottom of the

first page it says, "Facility Description. Design flow is 22,000 gallons per day. Actual flow is 14,400 gallons per day."

A. Is that an exhibit?

Q. Yes. Do you need to see it?

MR. KRUEGER: May I approach?

JUDGE JONES: Yes.

THE WITNESS: I'm sorry. Did you ask a question?

BY MR. KRUEGER:

Q. The question is: What is the average daily flow at Quail Valley Lake?

A. The -- if you're talking about the design average daily flow is 22,000 --

Q. I'm not asking about the design average daily flow. I'm asking what the average daily flow is at Quail Valley Lake.

A. Well, then -- then we need to talk about what information we have.

Q. Okay. Did the DNR state there that the actual average daily flow is 14,400 gallons per day?

A. The permit has a line that says actual flow is 14,400 gallons per day.

Q. Why would they say that if they hadn't made a determination that that's what it is?

A. Well, in my experience in working at DNR and having dealt with some permitting issues, that number reflects a determination made by the Department related to permit fees.

When the new permit fee was passed, they took a lot of political heat, so they developed a process whereby they could provide some relief.

So basically instead of whatever the fee is for 22,000 -- and, again, recognizing I've been gone for four years. But if it's the same as when I was there, what that number represents is what somebody used to determine the permit fee.

Q. So are you saying that in order to avoid enduring political heat, that DNR purposely misstated the amount of actual daily flow?

A. No. That's just the system they developed. That's how they came up with -- when I was there and was in the Permit Section, they came up with this section for developing the permit fee.

And that's what that -- you asked me what that line is for, and that's the best of my knowledge what the line was used for.

Q. Is it your testimony that the average daily flow is not the 14,400 gallons per day that the DNR says it is?

A. Well, it's unlikely that it's exactly 14,400 gallons per day, yes.

Q. Okay. In what way is it likely to vary?

A. Well, do you want me to speculate on this?

Q. No. You said that -- you said that it's unlikely that it's -- that it's exactly 14,400 gallons per day. Were you speculating when you said that?

A. Well, that's a very specific number.

When I was there -- and I'll have to respond to the question this way. What people would do is they would submit data to the Department.

Now, for example, in this case the permit calls for and establishes that they measure the flow. Well, we've talked a little bit about that previously, and I don't want to go over that again unless you would like for me to.

But the point is, the Department knows that that flow has been taken in a certain manner and, you know, you get the data, you add it up and you come to a conclusion. I don't know exactly how they got 14,400.

Q. Is it your testimony that the Department of Natural Resources doesn't really believe that this is a realistic number at all?

A. I don't know.
Q. Do you think that they think that the number is unreliable?
A. I -- I don't know.
Q. Why would they put a number on an operating permit if they don't think it's reliable?
A. My understanding is that relates to how you calculated the fees.
Q. And what is the basis for that understanding?
A. Having worked there and known -- being familiar with the fact that there was a process in place that was used in the Permit Section to do that.
Q. Am I correct in understanding that in order to keep the permit fees lower, the DNR misstates the amount of actual flow?
A. To keep it reasonable. The -- the policy was intended to not basically charge a higher fee than was reasonable for the specific permittee.
Q. Okay. Let's talk about the data we do have.
Mr. Haug presented data flow measurements for a year or eleven months, I think at least. Do you agree with that?
MR. KRUEGER: May I approach, Your Honor?

JUDGE JONES: Yes, you may.

THE WITNESS: Yes.

BY MR. KRUEGER:

Q. You may want to refer to this, Exhibit 13. It may be of some help.

Did you say that Mr. Haug did include flow readings for a period of about a year?

A. Yes.

Q. Okay. And so there should not be a seasonal variation in those data, should there?

A. There shouldn't be a seasonal variation in the -- you're asking me if there should be a seasonal variation in flow data?

Q. In the flow data that was taken over a period of one year's time.

A. Oh. If you average the data over a year, no, there shouldn't be.

Q. Okay. In his letter to Ms. Rush, Exhibit 12, Mr. Haug said that the average flow rate was 11,744 gallons per day, and that that was taken -- he said, "It is understood that the readings recorded are instantaneous; however, with over 160 readings taken, a statistically significant indication of the peak flows realized at the wastewater treatment plant is provided."

Do you disagree with that statement?

Let me rephrase my question.

Do you have any reason to believe that his statement that the average of those numbers was 11,744 is incorrect?

A. No.

Q. So you agree that his numbers indicated that the average flow was 11,744?

A. No.

You asked me if the numbers added up to an average of that, and that's true, I presume. I didn't check his math. I certainly trust that they do.

Q. Okay. So why did you say no to the second question?

A. Well, because I'm familiar with the manner in which the data was collected, time of day, et cetera. So it's not likely that they represent the true average flow for a particular day.

Q. Okay. So you're questioning the accuracy of his instantaneous reading?

A. I'm just -- no, I'm not questioning the accuracy of the instantaneous reading. There is a lot -- and those reads are crude, because, you know, they bounce around from something like 16,000 to 20

some thousand or 24,000. They bounce around a lot. There is just very specific numbers.

So he's not getting a real accurate reading of any specific day. But the key thing has to do with the fact that those are not 24-hour readings like I take when I do a flow study, so that you get a real picture of what occurs during the day, the entire day, not just a part of the day.

Q. Okay. So your testimony is that it's less accurate than you would obtain if you did a flow study?

A. Yes.

Q. Are you saying it's inaccurate?

A. No. I've said it's good information. It's just we have to take into account, you know -- there is nothing -- nobody has falsified anything here obviously, but we have to take into account the information that we have available about that.

That would -- I don't -- I don't believe that we should ignore the fact that we know some things about the data that tell us something about what it represents.

Q. Now, would you agree that those readings were taken at times from as early as 7:30 in the morning until late in the afternoon?

A. Yeah. Yes.
Q. Okay. Were any readings taken at three o'clock in the morning?
A. No.
Q. If readings were taken at that time of the day, wouldn't that result in a lower number?
A. If -- if the only change you made was added readings from then, it certainly would, yes.
Q. So my question is: Why do you believe that these readings that were taken at the times that these readings were taken were misleadingly low?
A. Well, you may recall the testimony yesterday about travel time in the sewer system. Travel time in the sewer system is minutes. From the farthest home to the treatment plant is minutes.
And as Ed mentioned, you know, some of us are getting a little older, and I've worked for a long time. And I have a pretty good idea of what pattern people follow relative to getting up, getting ready for work. And also we know they didn't have any samples during the evening period when there was heavy water usage.
So I don't see how you could assume the data taken at the tail end of the morning peak and then throughout on the low-flow day period and not at

all during the evening would be an average flow for the wastewater facility.

Q. Do you have any better data?

A. Yes.

Q. Tell me what it is.

A. Well, the data from hundreds of facilities incorporated --

Q. No. No. I want to know about any better data for Quail Valley Lake.

A. No, not data.

Q. Okay. I've looked at your report, Exhibit 35. In looking at the body of that report, I'm talking about the first four pages, without -- without including all of the attachments to it.

Is there any data in those four pages?

A. No.

Q. No data?

A. There is a lot of information, but I don't use data and put my name and sign a report if I don't believe in that data, that I can back that data up and testify about it and sign my name as a professional engineer to it.

Q. So you said it is a gamble to assume that reserve capacity exists in the wastewater treatment plant for additional flow, and you signed your name to

that.

A. That's correct.

Q. Did you believe that that was based on reliable data?

A. It's based on reliable information.

Sometimes -- you know, in this business I deal with large facilities, you know, including, for example, Kansas City's sanitary sewer situation, I & I information, but I also go deal with very small towns.

Your expectations for data varies dramatically, and it's a mistake to take information that people call data and use it without evaluating whether or not it really should be used for the purpose.

And so I -- I had the data. I talked to people familiar with the plant. I went through the plant. I'm familiar with this type of process, wastewater collection system. I had a lot of information.

I used all of the information that I could muster that I could find to come to this conclusion, and I did not -- purposely did not use the data that you're referring to.

Q. Attached to your letter is about, I don't

know, 20 or 30 pages of documentation. Did you rely upon the information that -- upon any data that is in there?

A. Well, I relied heavily on a couple of Department of Natural Resources' letters. And whether or not they included data would be -- I guess would be subject to interpretation, but your conclusions based on numbers related to this project.

Q. You said you relied heavily on a couple of DNR letters?

A. Yes.

Q. And which are those?

A. September 1, 2004.

Q. That letter that was written on September 1, 2004, is that the one from Brenda Bethel?

A. Yes, sir.

Q. And did that consider the fact that septic tanks are used in all of the homes and that all of the sewage that goes to this treatment plant flows through the septic tanks before it goes to the treatment plant?

A. Well, you're talking about the organic loading load and we've been talking about the flow.

But to answer your question, let me look at that paragraph.

They did not use garbage grinders. I did not take that into account. In terms of -- and I believe you're referring to the second paragraph on the third page?

Q. You're the one that mentioned the Brenda Bethel letter. So I'm wanting -- you said you relied heavily upon Brenda Bethel's letter.

A. Well, we're talking about flow, and you asked me about organic loading. I presume that you must be talking about --

Q. All right. Let's talk about the flow then, the hydraulic loading. What did Brenda say in her letter that made you think that it's hydraulically overloaded?

A. However, if additional flow is added to the treatment plant, 10 CSR 20-8.160 -- the large guide, because if you go up 500 gallons in flow, you then move into the large guide -- requires clarifiers following the activated sludge process to have sidewater depths of at least 12 feet to provide adequate separation zone between the sludge blanket and the other flow weirs, which is correct.

And she goes on to identify the exact number of connections. But she gives also an analysis of what she thinks it could handle organically, which

is what you referred to earlier.

Q. But the large guide is only used for plants having a flow of greater than 22,500 gallons per day. Is that right?

A. Yes, sir.

Q. Okay. And there is not evidence that the flow is greater than 22,500 gallons per day or would be greater than 22,500 gallons per day if additional connections were made, is there?

A. I'm pausing because of the way you phrased the question.

Q. Okay.

A. But there is evidence -- there is information suggesting that if you add the additional sewer lines, the capacity of the treatment plant would be over 22,500 gallons per day.

That's why she says this. She evaluated it, and that's why she put that position, and that is the correct position.

Q. And what is that information that says it would be over 22,500 gallons per day?

A. Well, in her case I expect she was -- well, I don't know for sure. She may have been using the design guide numbers.

In my case we have -- I have some

additional information as referred to in the report and other information that's not referenced in the report related to this facility.

Q. But you agree that when actual data indicates that the flow is less than the design guide numbers, the DNR may accept a lower amount of actual?

A. Acceptable data. And the Department is very clear to include that. And it has to be, you know, something that is acceptable, reliable data.

And that is correct. If you have that information, absolutely.

Q. You testified that inflow and infiltration is a known fact. Do you remember saying that?

A. Yes, I do.

Q. Okay. Do you mean that inflow and infiltration at Quail Valley Lake is a known fact?

A. What I mean by that is -- and I can certainly understand how we kind of got into this mess, because in my experience, consistent people consistently intuitively presume that there is no I & I in their system and that's -- that's -- the systems are tight.

And as I've said, I've done many flow studies. I've been involved with people, and, as I've

testified, who are very knowledgeable about wastewater facilities, not just throughout Missouri but really throughout the nation. I have yet to find one that didn't have inflow and infiltration.

Q. Okay. You would agree that each sewage treatment facility is unique?

A. Yeah. Yes.

Q. And what works in a particular place depends upon the unique circumstances of that site?

A. Yeah. For example, the flow and loading, et cetera, right.

Q. Okay. So if inflow and infiltration is typically a problem that causes 15 to 20 percent extra flow, what relevance does that have when we know what the actual flow is at Quail Valley Lake?

A. Well, first of all, I -- I believe that 15 to 20 percent is a reasonable number to use in this situation. A lot of situations are much higher.

But moving on to the next part of your question, I've addressed the fact that there is information and there is data in the limitations of that data.

Q. How would you apply the 15 to 20 percent? What do you add the 15 to 20 percent to?

A. Well, if you had good reliable flow

information -- let me give you an example in this case.

We not only have flow data from the plant. We talked about that a lot. There is water use data. And there was -- and there was, you know, a census taken.

And I wouldn't necessarily use all of those by themselves, but there was information about how much water people use.

Now, that was a snapshot, and we've talked some about the fact that you wouldn't really want to just take a snapshot and presume that that's going to cover you for the next 20 years, whatever period you're looking at. That wouldn't be wise.

So you'd have to adjust that, but you also have to include an I & I allowance. And then -- in this case that's a reasonably good way to evaluate it, and by chance, you end up very closely to the design guide numbers. And the design guide numbers, those numbers are tried and true.

Q. Am I correct to understand that you would -- that what you would do is take the water usage and add 15 to 20 percent to that?

A. No. You'd have to modify the water usage because that's a snapshot at one moment in time.

You know, you're not going to design a treatment plant that is going to last for a long period of time based on that one piece of data.

Additionally, I haven't seen the protocol for the collection of that data. And that data is very possibly extremely accurate. It could be 100 percentage accurate. But census day is often varied by as much as 10 percent.

So I don't know. I haven't seen any protocol about how that data was collected. So you have that unknown and you have the unknown that that was one moment in time over a long period of time, and it's not likely that that's the highest population that will ever occur in a subdivision in any of the years that Aqua Missouri would be required to meet their permit limit and be responsible if they didn't.

Q. Is it your testimony that the design -- the standard design numbers are more reliable than the actual data?

A. No.

Q. I believe you testified that in regard to the census, that you would use the population data but add a percentage to that.

My first question is, you would if -- if you were who? If you were the designer, if you were

DNR? Who?

A. Well, you've been asking me about what I think the capacity is, so I was trying to answer that question. That's me answering a question.

Q. So are you saying that if you were designing a facility, you would take the population data and add a percent to that?

A. Well, the first thing I'd do is I'd look at the population data to see the source of the population data, and then I'd make a judgment relative to the accuracy of that, because I'm aware that people occasionally go back and re-survey and they get a different number. So I'm aware of that.

There is a limitation in the accuracy of population data. And I'm not calling into question, you know, the data provided, other than I haven't seen the protocol for how it was collected, you know, all that kind of thing. So that's an unknown to me.

And so I would have to take that into account, and I'd have to take into account that it's a specific time.

And when you look at wastewater treatment or water supply or anything like that where you're doing the planning for the design, you don't look at a moment in time that you happen to have information

for. You predict what it's going to be for the period of time that you're going to have a permit or whatever the situation is.

Q. Do you have a reason to believe that the census data is inaccurate?

A. No.

Q. You just think that it might not be accurate. Is that right?

A. Well, this specific data -- I'm presuming you're asking me about this specific data, and I don't have any reason to believe that it is inaccurate.

But I haven't seen any information suggesting to me, you know, how it was collected, the manner in which it was collected.

So I would need that information to determine if it is accurate, and with that information I might be able to make a determination that is exactly accurate. But I have no information about that.

Q. You said that you would add a percentage to the census data. What percentage would you add?

A. Well, that would depend on -- right now we've just heard a number. If that's all I had, I would certainly add at least 10 percent, because, you know, that's -- there is some potential variation

there if you don't have any documentation of how the information was obtained.

Now, if the documentation was provided and it's apparent it's very good information, you might not have to add any percent, but you need to know.

Q. Okay. You testified that the purpose of the septic tanks is to remove solids, so that they could use smaller pipe, the four-inch pipe. Was that your testimony?

A. Yes.

Q. And how do you know that that was the purpose?

A. Well, there is a report in the file.

Q. Does removing the solids have any effect on the organic loading?

A. Yes.

Q. Okay. You testified a little bit about the mixed liquor going to the clarifier, settling occurs, thickening of activated sludge. Do you remember that?

A. Yes.

Q. You talked about a theory of how extended aeration works. Is there any data that shows that there is a problem at Quail Valley Lake?

A. Well, you know, that's interesting, because I wasn't aware of any data.

The kind of data that I'm looking for is composite sampling data, not a grab sample. Because you get the -- typically a composite sample is one sample each hour over a 24-hour period.

And much as I talked about with wastewater flow data, it's much more accurate when you collect data on a regular schedule and a very frequent timeframe.

And actually yesterday I did hear testimony that there was a composite sample result of the effluent that was in noncompliance, which I hadn't been aware of. I guess I overlooked that if it was in the files.

Q. You testified, I think, that the rating of this plant is 150 gallons per square foot per day. Now, that's for the clarifier. Is that right?

A. That's correct, for the clarifier.

They're rated for a hydraulic flow of 150 gallons per day per square foot. That's an average -- that's a design average flow, which would be the average flow for a year.

Q. Now, you said that was from present rule?

A. Yes.

Q. Rule of the DNR?
A. Right.
Q. But you didn't cite the rule. Do you know where that rule is found?
A. Yes. 10 CSR 20-8.020.
And Exhibit A, page 16, the far left column, near the top.
Actually, I'm mistaken there.
It's actually page 18, far left column there at the top. If you read 7.B., the last paragraph, and that's what applies, because it says, For plants without flow equalization, the maximum surface settling rate shall not exceed one hundred fifty gallons per day per square foot, at the twenty-four hour average design flow.
Q. Okay. Thank you.
I think you testified that you weren't concerned about organic loading problems at Quail Valley Lake. Is that correct?
A. That's true.
Q. You testified something about the Department would use 3.7 people per residence unless an engineer signed and sealed and the Department approved some other number.
Do you remember saying that?

A. That's -- that's the process that would be used. There's been a lot of testimony. I don't remember if I said those exact words. I'm sorry.

Q. Well, whether you said it or not, you think it's true?

A. Yeah.

Q. Okay. And no engineer has signed and sealed any document that says that any number different than 3.7 is applicable in this case. Is that right?

A. Well, and that would occur during the process of applying for a construction permit typically. I mean, I guess other circumstances could occur where it might come up.

But that's where you would have a signed and sealed document, when you're applying for a construction permit. That's the process that the Department has laid out, and they require that type of . . .

Q. My question is, is it your testimony that no engineer would sign and seal something that says that less than 3.7 persons per residence is appropriate?

A. No.

Q. Okay. You testified that the original

permit was for 80 residences. What is the significance of 80 residences in regard to the original permit?

A. Well, that is the basis for the size of the wastewater treatment plant. The documentation submitted to DNR include 80 residences as part of the basis for determining what the allowable load was in the treatment plant.

Q. Basically that's an assumption that the engineer made when the design was -- when the plant was designed. Is that not right?

A. Well, actually, typically, there is plans that show the specific lots, and it can be assured the Department actually counted those to make sure that there were actually 80 lots.

So it's not an assumption. I mean, that's what they're stating -- stating the subdivision will consist of.

Q. Does the permit limit this sewage treatment facility to treating the sewage from 80 residences?

A. Well, that's a good question, because some regions put people on notice way before they get to the peak loading. And that is something that is in a state of flux.

I don't see where the permit has specific language that would limit the number of homes though.

Q. My understanding of the permit is that it limits the amount of BOD in the effluent and the amount of total suspended solids in the effluent and the amount of fecal coliform. Is that incorrect in any way?

A. Well, there is a number of other things the permit does, but those are the key things, absolutely.

Q. But it doesn't limit the number of residences that may be connected?

A. Well, if the number of residences connected affect other things in the permit or if it affects the Department's ability to issue sewer extensions, which is something that they deal with on a daily basis, it very much is pertinent.

Q. Also in your report in the conclusion you said, "The existing wastewater collections system is over taxed at present. As a result it would not be advisable to connect new sewers serving additional residential areas to this system."

And there was some testimony about what Mr. Haug had said yesterday about a separate sewer -- running a separate sewer from the new lots to the

treatment plant instead of using the existing sewer. Do you remember that?

A. Yes. I agree with his recommendation.

Q. And you think that would be a good idea?

A. Oh, yeah.

Q. Now, is it your testimony that the DNR would probably deny an application for a construction permit for the sewer -- for that new separate sewer because the present sewer is overtaxed?

A. No. Because if he submitted it that way, the present sewer situation would not be an issue. But the capacity of the plant treatment plant would still be an issue, and they have pretty well -- not pretty well. They indicated it would have to be expanded.

Q. And where did they so indicate?

A. In the letter we referred to earlier from Brenda Bethel.

Q. In 2004?

A. That's correct.

MR. KRUEGER: Okay. That's all of the questions I have.

JUDGE JONES: Okay. Let's take a ten-minute break. We'll come back. We'll come back at quarter until. And we'll finish with this witness, by

the way, before we go to lunch.

(A RECESS WAS TAKEN.)

JUDGE JONES: Back on the record in Case No. WC-2007-0303.

Cross-examination of Mr. Clarkson.

MR. LUDWIG: Thank you, Your Honor.

CROSS-EXAMINATION

BY MR. LUDWIG:

Q. Mr. Clarkson, you were hired by Aqua in July of 2007. Is that correct?

A. Yes.

Q. Do you know whether Aqua consulted with any other engineer between September of 2006 when Greg Haug sent the letter requesting approval for ten hookups in July of 2007?

A. I don't know if they consulted with anybody else.

Q. Did you see anything in the Aqua file to indicate that they consulted with anyone else?

A. No.

Q. And you agree at this time it would be reasonable to approve ten more hookups. Is that correct?

A. Yes. The ten vacant lots that are adjacent to the existing wastewater collection system.

Q. The ones that are on the completed streets?

A. Yes.

Q. Okay. Now, it's true you took no samples at Quail Valley. Correct?

A. That's correct.

Q. You did no flow studies at Quail Valley. Correct?

A. Yes.

Q. You indicated that a flow study would be expensive. Correct?

A. Yes.

Q. Would it be as expensive as expanding the wastewater treatment facility?

A. No.

Q. You said that it takes some lead time to do a flow study, and you said if you were going to do one in March, you'd want to be arranging that in November or December?

A. Yes.

Q. So if Aqua would have contacted you in September of 2006 and asked for your input at that time, when it received the request for the ten additional hookups, you'd have plenty of lead time to do the flow study. Correct?

A. I would have had plenty of time to arrange for meters.

Q. All right. Now, you did no review of water usage at Quail Valley other than what is in Mr. Haug's report. Correct?

A. Of actual water data, that's correct.

Q. All right. And that number should be in the ballpark for that month. Correct?

A. I would think it would be, yes.

Q. Okay. And the influent and the effluent at the plant should be commensurate with that water usage to a great extent. Correct?

A. Not necessarily.

Q. Do you remember giving your deposition in this case, Mr. Clarkson?

A. Yes, I remember giving a deposition.

MR. LUDWIG: May I approach the witness, Your Honor?

JUDGE JONES: Yes, you may.

BY MR. LUDWIG:

Q. I'm going to direct your attention -- first of all, do you see that this is the deposition of Randy Clarkson?

A. Uh-huh.

Q. Taken a little over -- about a week and a

half ago or two weeks ago. Right?

A. Yes.

Q. You had a chance to review this?

A. Yes.

Q. I'm going to draw your attention to page 27.

And we were discussing the influent and effluent flows. Okay? This is what we've been discussing. All right?

I'm going to take you to page 27.

Question: Because effluent/influent should be somewhat commensurate with water usage, shouldn't it?

Answer: It is somewhat, yes. To a great extent it is.

Did I read that correctly?

A. Yes, you did.

Q. Thank you.

You did no study of infiltration and inflow at Quail Valley. Correct?

A. No.

Q. What study did you do to measure inflow and infiltration at Quail Valley?

A. I didn't do a study.

Q. All right. Now, one of the sources of

inflow is manholes. Correct?

A. That is correct.

Q. They have no manholes at Quail Valley, do they?

A. They have more septic tanks than they would have manholes, if they had manholes, which has a larger surface area than a manhole.

Q. Manholes are often in the middle of the street where the water is running down, got holes that lead directly into the wastewater collection system. Correct?

A. No.

Q. No?

A. No.

Q. But they don't have manholes so that's --

A. Manholes in their system wouldn't have holes in them. You might see manholes that have holes, but those would have been older manholes in the larger cities or something.

Q. Well, regardless, they have no manholes, do they?

A. No, they have no manholes.

Q. And the downspouts out there are not connected into the wastewater collection system, are they?

A. Well, that has been stated and that's -- that's entirely possible. Maybe even likely.

Q. You understand there is a restriction out there that says you cannot connect them to the wastewater?

A. That's correct.

Q. And you have no evidence they're connected to the wastewater --

A. No.

Q. -- collection system. Correct?

A. Yes.

Q. All right. So you don't know what the infiltration and inflow is at Quail Valley, do you?

A. I know that I've never found a system that --

Q. My question is --

A. -- had no I & I.

Q. My question is this: Do you know what the I & I is at Quail Valley?

A. No, I don't know what it is.

Q. All right. Now, I & I would get into the system before it reaches the plant, obviously?

A. Yes.

Q. And so if you're measuring flow in the effluent, that's going to include the water usage from

the homes and any I & I. Correct?

A. Yes.

Q. All right. As Mr. Krueger brought out, the regulations are design standards. Correct?

A. What we've been talking about? There is lots of regulations. We've been talking about design standards that are regulations.

Q. All right. And every one of those design standards talks about if you've got real data available, that will be considered. Correct?

A. Yes.

Q. All right. Now, you asked about the criteria -- or the protocol for the census.

Going around to 77 or 78 homes isn't real difficult to count the number of people in, is it?

A. Well, there is more to it than going around to homes.

Q. Well, what do you have to do to determine how many people live in a home other than ask them how many people live in the home?

A. Well, you know, I -- I don't know how the question was phrased. Was it done in person? Was it done in a letter? Was any other information provided?

Q. Do you have anything to dispute that there were 229 people living at Quail Valley in

77 homes back in March of 2006?

A. No.

Q. What information do you have that that has changed in any way?

A. Well, we've had testimony that people have moved in and moved out, and that's logical.

Q. Okay.

A. People move in and move out. We all know that the population in communities like this or developments like this changes over time. It's logic, common sense.

Q. What if I told you that there were now 78 homes with 231 people. Would that surprise you?

A. It was 229?

Q. It was 229. Added one more home that has two people in it.

A. Well, that's seems reasonable.

Q. Okay. The design criteria in the regulations assume no pretreatment. Correct?

A. Well, they make provisions for pretreatment.

Q. But the 3.7 and all that assumes no pretreatment?

A. That's -- the 3.7 -- there is other areas that talk about whether or not there is pretreatment.

That is separate from the 3.7.

Q. But you agree we have pretreatment. Correct?

A. Yes.

Q. Since 1988 when these regs were apparently adopted, according to Mr. Ellinger's question, have there been any developments such as low-flow toilets, low-flow showers that would decrease water usage from what it was 20 years ago?

A. There are opportunities to use less water with those types of appliances today.

Q. Thank you.

Now, there are a number of things you look at to determine whether a plant has additional capacity. Is that correct?

A. Yes.

Q. And I asked you about this in your deposition, and we'll go down the list. We look at the size of the aeration basins, right, and the clarifier size?

A. Yes.

Q. And how those relate to the flow and the loading. Correct?

A. Yes.

Q. And we look at the BOD and TSS readings

in the effluent. Correct?

A. Yes.

Q. We look at the ability to return sludge from the clarifier to the aeration basin. Correct?

A. Yes.

Q. We look at the ability to disinfect the effluent?

A. Yes.

Q. And we look at the ability to store and waste sludge. Correct?

A. Yes.

Q. Now, going down those factors, Quail Valley's wastewater treatment facility has the ability to store and waste sludge. Correct?

A. Yes.

Q. It has a chlorinator to disinfect. Correct?

A. Yes.

Q. It has the ability to return sludge from the clarifier to the aeration basin?

A. Yes.

Q. All of the BOD readings that we've seen are well within the permit level. Correct?

A. Yes.

Q. And the TSS readings are all well within

the permit level. Correct?

A. Well, we had testimony yesterday to the contrary.

Q. Well, there was one anomaly.

But other than that one off-the-chart reading, everything has always been well within --

A. (Inaudible.)

THE COURT REPORTER: I'm sorry.

THE WITNESS: -- one data point collected with a composite sample, which is the most accurate way to obtain data.

BY MR. LUDWIG:

Q. And were you informed that the portion of that sample that Aqua tested was well within limits?

A. Oh. I wasn't aware of that.

Q. They didn't tell you that?

A. I didn't see that data. Now, I didn't recall it.

Q. Would you want to see it?

A. That would be fine.

MR. LUDWIG: Do you have that handy, Marc?

MR. ELLINGER: What are you looking for?

(OFF THE RECORD.)

BY MR. LUDWIG:

Q. I hand you what's been marked Petitioners' Exhibit 20. Let me represent to you that is the test results that Aqua got from the composite sample. Those are well within the permitted limits. Correct?

A. They're both within the permitted limits.

Q. All right. Thank you.

THE COURT REPORTER: That was No. 20, Mark? Was that your next number?

MR. ELLINGER: No. I started on 20.

MR. LUDWIG: Oh. I'll re-mark it later.

JUDGE JONES: Do you have something marked already as 18?

MR. LUDWIG: Yes. I just haven't used it yet.

JUDGE JONES: And 19?

MR. LUDWIG: Yes.

MR. ELLINGER: Can he take Exhibit 40, Judge? There is no way I'll get that far, I promise.

MR. LUDWIG: Let the record reflect that the exhibit the witness just looked at has now been marked Petitioners' Exhibit 40.

BY MR. LUDWIG:

Q. Do you have any evidence that this plant has ever overflowed from hydraulic overloading?

A. No.

Q. If there is a concern about peak flow, a flow equalizer can be installed. Is that correct?

A. Well, flow equalizers are normally used for variations in diagonal flow. We're actually talking about peak wet weather flows here.

Q. But it tends to even out -- a peak flow equalizer would equal out the flow. Correct?

A. Well, it would equal out the flow, but there are permitting issues. And if you're talking about at what peak wet weather flow, flow equalizer.

Q. In the regs you looked at earlier, you pointed out to Mr. Krueger where it said 100-- the clarifier surface settling rate shall not exceed 150 gallons per day per square foot. Do you remember talking about that?

A. Yes.

Q. With a flow equalizer it shall not exceed 1,000 gallons per day per square foot. Correct?

A. The flow equalizers are for -- generally for diagonal flow variations. It doesn't have a flow equalizer. It has nothing to do with what we're talking about.

Q. How expensive is it to put in a flow equalizer on this plant?

A. For wet weather flows it can be very expensive, and, in fact, it can be impractical with the limited area they have available there. It may be impractical.

Q. Have you analyzed that?

A. Not in this job. I've analyzed a lot of flow equalization for I & I wet weather flows.

Q. But not on this job?

A. No.

Q. Okay. Now, as far as what the flow is out there, the only numbers that we have are Aqua's flow numbers reported to DNR. Correct?

A. At the treatment plant, the only flow data that I'm aware of is that data, yes.

Q. And their daily reports that they -- their operational logs that they take every day?

A. Uh-huh.

Q. Correct?

A. Yeah.

Q. All right. And you understand that the numbers in Mr. Haug's report were taken from the daily field notes with over 160 readings. Correct?

A. Yes. I believe that's correct.

Q. And you don't dispute those numbers that Aqua recorded, do you?

A. I don't -- I don't dispute the numbers, no, other than what I've testified to is that they are -- they obviously don't have a high degree of accuracy because -- and there was testimony entered in about this yesterday, that, you know, they jump from thousand -- by several thousand to numbers -- and then that number is repeated.

And so it's quite clear that there is -- there is a question of exact accuracy. It relates to the type of meter and ability to see the markings and the chart they use and whatnot.

Q. It's a round number in essence?

A. Yes.

Q. It's not a per -- it's not to the tenth of a gallon or even to the gallon?

A. Yeah, right.

Q. Now, you said one of the problems is, is that there is no readings done at night. Aqua could have done some readings at night, couldn't they?

A. Well, these readings -- I'm not aware of -- you know, there are hundreds of permits like this. And to my knowledge generally this data is collected in this way, you know, while people are on normal duty hours.

Q. Right. But if for no other reason for

purposes of this hearing, they could have gone out there and taken flow readings for months at night, couldn't they?

A. Yes, I bet they could.

Q. And at the middle of the night you would agree that the reading would be the lowest, 3:00 a.m. in the morning or whatever, when people are sleeping?

A. Well, that, and then during the during the middle of the day. I mean, they might be pretty similar. They'd both be low typically.

Q. And would you agree that they're probably highest in the morning than they are -- higher in the morning than they are at dinner time or when people get home?

A. I think it's likely that you may have an instantaneous peak in the morning that might be a little higher than the instantaneous peak at dinner time. But, of course, that would last over a longer period -- a much longer period of time.

Q. Now, you did no tests of the influent to check loading. Correct?

A. No.

Q. Not correct? You didn't do it?

A. Sorry.

JUDGE JONES: Ask him --

BY MR. LUDWIG:

Q. You did not check -- you did not do a test of the influent to check loading?

A. No, I didn't.

Q. You have no data on influent loading other than what Greg Haug did?

A. Well, I've seen several bits of data, and I'm not sure if it's Greg's or Aqua Missouri's.

Q. Did you see in Mr. Haug's report that he tested -- or tested influent for BOD, and there were two readings before the septic tanks were pumped at 81 and 84. Do you remember seeing that?

A. I don't recall that. I mean, if you want me to testify about that, I guess I better turn --

Q. Do you want to look at Exhibit 12, I believe it is. There should be a table in the back.

Maybe it's not.

A. This?

Q. Let me see if it's on there.

A. Would you like mine?

Q. I can't see from there. Your eyes are like mine.

All right. It's in a different exhibit.

This is Exhibit 17. Take a look at that.

Do you see where the influent was tested?

A. Yes.
Q. And after the septic tanks were cleaned and it had a chance to settle down, the BOD dropped from about 81 to 68. Do you see that?
A. Right. I see a sample that says 68 for BOD.
Q. And the TSS went from the 33 range to 28?
A. That's what the data says.
Q. Now, that would indicate that the septics were doing a good job of reducing the load to this plant even before they were pumped. Correct?
A. That would suggest they were reducing the organic load below what you would expect without septic tanks.
Q. All right. And the pumping of the tanks helped that marginally?
A. Well, that's pretty limited data, but it seemed -- based on that data, yes, it's a little lower.
Q. Now, Greg calculated the daily BOD loading at 9.9 pounds per day. Do you have any figures to contradict that?
A. No.
Q. And I believe you referenced a letter from Mr. Mueller. He anticipated around 50 pounds a

day of BOD loading. Is that right?

A. It was -- can I refer to that?

Q. Sure. It's in your report.

A. Yeah. There is a little more to it than that.

Q. Well, actually I think he said he anticipated 46 to 50 pounds of loading.

A. Yeah, I thought he gave a range. He actually said 65 pounds and then came to 46 to 50 because of the reduction in the aeration tank/septic tanks.

Q. So the actual loading at this plant is about 20 percent of what Mr. Mueller anticipated in that letter. Is that correct?

A. Well, you asked me if I was going to dispute Greg's number or I had data to dispute it. But that's pretty limited data. I mean, I'm not debating aeration -- or capacity of the treatment plant to treat the organic waste.

But, you know, when data suggests something that doesn't, you know, seem to be real, you might want to stop and think about, okay. How much data do you have and is that real?

You know, whether it's 9 or 20 wouldn't, you know, wouldn't make any difference relative to my

determination.

Q. Okay. And, again, that shows that the septic tanks are doing some pretreating that even Mr. Mueller didn't anticipate?

A. The septic tanks appear to be removing some BOD.

Q. Now, you agree the plant has additional capacity. Correct?

A. I think it has some limited additional capacity as I've indicated in my report.

Q. The collection -- you've indicated you believe the collection system is overtaxed.

Have you done a calculation of what the collection system can handle?

A. Well, I don't have as-builts, but I've done calculations.

It's a four-inch pipe, and I've looked at what a four-inch pipe can carry under various conditions. We don't know the head. So I looked at, you know, if it had a certain amount of head or less head or a little more head.

Q. You would agree that the collection system piping has more capacity than the plant has capacity?

A. Well, it was intended to. And, you know,

if it was -- if it was installed per the intent of the designer and DNR, it should have more capacity than the treatment plant.

Q. How many feet of sewer line, collection lines, are out there at Quail Valley?

A. Well, I don't know exactly.

Q. Do you think it's over a mile?

A. It's -- it's probably in that range. It's something like that, I expect.

Q. I mean, a half a mile to three-quarter mile down each side of the lake?

A. Yeah. And there may be some -- some branch lines.

Q. Now, as I understand it, you think the system is overtaxed because cleanout caps have popped off from back pressure during wet weather, which is something Aqua told you. Is that right?

A. Yes.

Q. But that backup could be because of a buildup of solids in the line. Correct?

A. Yes.

Q. And now Aqua told you they cleaned those lines on a regular basis?

A. They -- they indicated they cleaned them, yes.

Q. How often should these lines be cleaned?
A. I -- I don't know that.
Q. Okay. Have you reviewed their daily field notes to check when those have been cleaned?
A. No.
Q. Would it surprise you if their records from 2003 to the present indicate that those lines have only been cleaned three times except for emergencies?
A. No.
Q. That they've never been cleaned since March of 2004 except for emergencies?
A. That's -- that's a much more frequent cleaning approach than what most sewers get, if that's right.
Q. But this is a little unique in that you don't have the same grade all of the way through. Correct?
A. Part of it is, that's right.
Q. And, in fact, you've always got some water in certain areas of those lines?
A. That's my understanding.
Q. And good practice would be to clean those to make sure that nothing settles in those lines and plugs it up. Correct?

A. They should be cleaned periodically, that's right.

Q. Now, you are concerned -- your concern with the collection lines, if these lots don't have lines to them at the present time here that are outlined in blue, rather than hooking these lots into the sewage system -- or the collection lines as they are set up, something was run all of the way down into the plant, that alleviates your concern about the collection system being overtaxed. Correct?

A. Related -- yes, it does, related to this proposed 22 additional lots or 16, whatever it is in that subdivision outlined in the upper left in that map.

Q. Your report marked Exhibit 10 (sic) -- Mr. Ellinger wants to keep hammering on this -- you didn't seal that, did you?

A. I signed it and dated it.

Q. You didn't seal it, did you?

A. No.

MR. LUDWIG: I told you I wouldn't be long, Judge.

JUDGE JONES: Okay. Mr. Ellinger, redirect.

MR. ELLINGER: Thank you, Judge. I'll be

very brief.

REDIRECT EXAMINATION

BY MR. ELLINGER:

Q. Mr. Clarkson, would you look at Petitioners' Exhibit 17 -- pardon me, which is -- I think it was the last exhibit you-all were actually looking at.

A. Oh. So I've got it out here.

What is the topic?

Oh. That data? Okay.

What did I do with it? Here it is.

Q. Do you have that document in front of you?

A. Yes.

Q. Okay. And it shows that after the septic tanks were cleaned -- which at least the notation on here says is August of '06.

Do you see that, August 4, '06, shortly after septic tank cleaning. Do you see that notation?

A. Yes.

Q. The BOD levels went down, the most recent samples about a year after the septic tanks have been cleaned. Is that right? A little more than a year, 13 months?

September 30, 2007.

A. Oh. You're talking about down below here.

Yes.

Q. And has the BOD level now returned back to what it was prior to the pumping of the septic tanks?

A. 84 milligrams per liter. Yes, I see that.

Q. Is that about what it was before the septic tanks were pumped?

A. Yes.

Q. So the pumping had a positive and beneficial effect for about a year based upon that data. Is that right?

A. It returned to the same levels after about a year.

Q. Do you know if the wastewater treatment facility was designed to hold excess solids at the facility?

A. You know, I didn't look that closely. I thought it did, but I guess I'm not sure.

You're talking about aerated sludge storage or sludge storage at the plant?

Q. Well, let me ask you to take a look at Ms. Bethel's letter, Brenda Bethel's letter.

A. Yeah. Just a second.
Q. If you'd look at the second page of that letter.
A. Okay.
Q. The third paragraph that starts, "On July 16, 2004 . . ." Would you take a second and read that, please.
A. Oh, okay. Yeah.
Q. Did the Department of Natural Resources express some concern about solids accumulating?
A. Yes. I thought you were referring to something else.
Yes. And I recall that. That is -- in other words, solids are getting through the system and into the treatment plant.
Q. Does that affect the ability of the treatment plant to treat the influent?
A. Yes.
Q. And negatively affects that ability to treat, doesn't it?
A. Right.
Q. Mr. Krueger asked you a number of questions about the small system regulation of the Department of Natural Resources.
Do you remember those questions when

Mr. Krueger was up here?

A. Yeah.

Q. He talked a lot about average daily flows. Do you recall that discussion?

A. Yes.

Q. Do you have a copy of PSC Exhibit A in front of you, which is that small system regulation?

A. Yes.

Q. And I think he had -- I don't recall if he read it or had you read the second sentence under the Purpose paragraph. Do you see that?

A. Yes.

Q. And it says, "These criteria are not necessarily applicable to the design of works having daily flows in excess of 22,500 gallons."

Do you see that?

A. Yes.

Q. It doesn't use the word "average," does it?

A. No.

Q. Okay. That was a word that was added somehow in that discussion, was it not?

A. Well, we were talking about the clarifier capacity section.

Q. And clarifier capacity is very important

to the loading of this treatment facility, is it not?

A. Yes, it is.

Q. And if the clarifier were to overflow, what would be the effect on the treatment -- the treated effluent coming out of the system?

A. Well, actually it doesn't have to overflow to have a negative effect.

If the flow rate into the clarifier of the aeration basin is so high that the solids accumulate in this hopper-bottom clarifier, which is quite different from the clarifiers used in larger plants, that basically what happens is a mass balance. The solids build up and eventually go over the weir.

In Missouri DNR is aware of a long history of problems like that from plants like this. Not this specific plant though. And so this is something that the Department would look at very closely.

Q. And is that the reason the 150 gallons per square foot was built into the regulations?

A. Yes.

Q. And do you have an opinion as to what the current flow per square foot is at the Quail Valley wastewater treatment facility?

A. Well, the testimony yesterday was that

the current flow was 150 gallons per day, and that's -- that's pretty -- pretty accurate, I think.

Q. And that was Mr. Haug's testimony?

A. Yes, it was.

Q. Okay. And there was a discussion regarding actual data being used by the Department of Natural Resources with respect to permitting.

Do you recall that general discussion?

A. Yes.

Q. That actual data would have to be signed and stamped by an engineer to be accepted by DNR, would it not?

A. And be accepted by -- they would have to agree it was reasonable.

Q. Without a professional engineer signing and sealing those documents, would DNR accept a census taken in the field?

A. Well, the only time it would come up would be if there -- in this case it would come up if there was an application for a construction permit. They would not accept that application if it was not submitted and signed and sealed by a professional engineer.

Q. And they would not accept an application with flow data, even if it was actual flow data, if

that application was not signed and sealed by an engineer. Is that correct?

A. That's right.

Q. Okay. If you'd take a look at Petitioners' Exhibit 12, which was the letter from Mr. Haug to Ms. Hale-rush. Do you have that?

A. I'm not finding an exhibit. What is it?

Q. It says Petitioners' Exhibit 12 in the corner. It's the September 14, 2006 letter from Mr. Haug to Ms. Hale-rush, ReSource Institute. Do you have that?

A. I had it in my report.

Would you turn to the second page of that letter, Paragraph No. 5?

A. Yes.

Q. Are you there?

A. Yes.

Q. In that paragraph it talks about the gallons, the average flow rate per day.

And Mr. Haug has some language saying, it's understood that the readings recorded are instantaneous; however, with over 160 readings taken, a statistically significant indication of the peak . . .

In your opinion, since the peak times

were not included in those grab samples, is that an accurate statement, that those readings provide a statistically significant indication of peak?

MR. LUDWIG: I'm going to object to the question because it misstates the evidence. A lot of those samples were taken at peak times in the morning. There has been testimony to that. So I object to the form of the question.

MR. ELLINGER: Judge, I think the testimony has been that none of the samples were taken during the peak time. Some of them were taken at the tail end of the peak time is the only discussion that was ever mentioned.

And specifically I believe the witness has testified that during the prime peak time in the morning no samples were taken and none of the peak times in the evening.

MR. KRUEGER: The table shows the time at which every one of those samples was taken, and some of them I know were as early as 7:30. I don't know whether there was any testimony about the -- what exactly is the peak time.

JUDGE JONES: What's your question again, Mr. Ellinger?

MR. ELLINGER: Go back through all that

discussion.

The sentence says, with 160 readings taken, quote, a statistically significant indication of the peak. And my question is, in his opinion, since those 160 readings do not include readings taken at peak times, is that statement accurate?

THE WITNESS: No.

JUDGE JONES: Well --

MR. ELLINGER: You have to let him rule on the objection, sir.

THE WITNESS: I'm sorry.

JUDGE JONES: Well, I'll allow the question. When samples were taken speaks for itself in the record. It doesn't matter whether he misstates the evidence or not.

BY MR. ELLINGER:

Q. Could you go ahead and answer that question, sir?

A. If it did, it would be by chance in catching a wet weather peak event, because it's -- it's not likely that they caught a peak event during those two peak periods. So . . .

Q. In preparing your report and doing a review of information, did you review Mr. Mueller's original design and the calculations contained in that

document?

A. Yes.

Q. And did you rely on that document sealed by Mr. Mueller in preparing your report?

A. Yes.

Q. Of all of the other documents that you've seen in preparation for this report, in preparation for this hearing and any documents you've seen today that have been presented to you by the hearing, have you seen any other documents that have been signed and sealed by an engineer relating to capacity of the Quail Valley treatment plant?

A. No.

Q. Ms. Bethel's letter, which I believe we've talked several times about, you referred to as presenting a number of concerns.

Is it your understanding that that letter relates to connections of a new -- a new set of connections to 22 homes?

You might want to take a look at the first paragraph of her letter.

A. Yes. It references 22 lots that he'd like to develop --

Q. Okay.

A. -- and sell.

Q. It does not reference to existing lots that already have main to them, does it?

A. No.

Q. And that was in September of 2004. Right?

A. That's correct.

Q. You talked about -- and I think in some questions I asked you earlier and Mr. Ludwig followed up on, you would need to arrange the time to have the meters reserved to do a flow study before the end of the year if you wanted to do a flow study in the spring. Is that right?

A. That would be best, yes.

Q. But that's not the time it would take to complete this flow study, is it?

A. No.

Q. What would have to be done after those meters were reserved to complete a flow study?

A. Well, in this case there is some additional challenges beyond what there is normally because the pipes are so small. The meters I normally use, rent, are designed to go into six-inch and larger pipes.

But there is some technology where you can hook devices up to lift stations and get a fairly

accurate reading based on the pumping and the amount of water pumped, et cetera.

So there is -- the bottom line is, this is a little more challenging than during most flow studies because of the smaller pipes.

I mean, that's one of the reasons people put manholes in systems is for maintenance and for doing studies like this. We don't have that.

And basically what I'm saying is, in addition to the time to get the meters -- and in this case there might be some other devices beside meters. We'd have to figure out how to -- how to do that.

Additionally the surcharging creates a little bit of a challenge because once it surcharges back, or more, that can obviously affect how much water is running into the system.

It's -- I feel comfortable there is a way to do this. I'm not certain you can do it without installation of a manhole or two. I think you could probably put some meters on some pump stations and get a determination of the flow from those areas.

And I think that would be a good thing to do. Of course, I'm not paying for it.

Q. And then how long would you keep those meters on to actually do the flow study, to get enough

data?

A. We usually use three months. That usually works. Sometimes it doesn't. And if doesn't work after three months -- and the last time -- or actually the only time it didn't work for me in three months, we came back the next year and did it again.

Q. So this is a fairly long process to get a good flow study, isn't it?

A. Yes.

Q. And then there is an evaluation of all the data and preparation of reports and all of that after you get the data that takes three months to obtain. Right?

A. That's correct.

Q. So if you had started this process in late September, early October of last year, you'd said, you still would not have a completed flow study at this point. Is that right?

A. Well, I couldn't have started it -- it wouldn't have made sense to start in July. So there really was no way to get a valid flow study from the point I was contacted until now.

Q. But if you had been contacted earlier in the year, you still wouldn't have been able to get it done in your opinion?

A. If it would have been January 1, it's possible, but I wouldn't guarantee it would have happened.

Q. And that's assuming you got good flow data too?

A. Right.

MR. ELLINGER: No further questions.

JUDGE JONES: Okay. You may step down.

Let's go ahead and break for lunch, and we'll come back for our last two witnesses.

MR. LUDWIG: 1:30, Judge?

JUDGE JONES: Yeah, 1:30.

(THE NOON RECESS WAS TAKEN.)

JUDGE JONES: Okay. Let's go back on the record with Case No. WC-2007-0303.

Mr. Ellinger, we've gone through one of your witnesses and you have a second witness to call, I assume.

MR. ELLINGER: Yes, sir. I call Aaron Lachowicz.

JUDGE JONES: Mr. Lachowicz, would you raise your right hand, please.

(Witness affirmed.)

JUDGE JONES: Thanks. You may be seated.

THE WITNESS: Thank you.

DIRECT EXAMINATION

BY MR. ELLINGER:

Q. Would you state your name for the record?

A. Aaron Jason Lachowicz.

Q. And who is your employer?

A. Aqua Missouri.

Q. What is your position with Aqua Missouri?

A. Facility Supervisor.

Q. And how long have you been a Facility Supervisor with Aqua Missouri?

A. I'm going to probably guess around three, three and a half years.

Q. How long have you worked for Aqua Missouri?

A. Since late '01.

Q. Okay. Did you work for any of the predecessor companies, Aqua Source or Capital Utilities?

A. Aqua Source.

Q. Is that who originally hired you?

A. Yes, sir.

Q. Okay. What do your job duties entail as a Facility Supervisor?

A. To ensure that wastewater treatment plants that my guys operate maintain effluent

qualities that are acceptable to the State.

Q. And how many treatment plants do you oversee and maintain?

A. I'm going to guess and say around 56.

Q. Okay. And how many people report to you?

A. Five guys.

Q. And they are the ones who actually do most of the on-site maintenance?

A. Yes, sir.

Q. And do you do some on-site maintenance?

A. Yes, sir.

Q. What types of on-site maintenance have you done in the last -- since you've become a Facility Supervisor?

A. Um, sewer jetting, running the sludge truck, routine maintenance at the treatment plant, daily operations, filling out the NPDES permits, running the lab.

Q. Prior to being Facility Supervisor, what was your position at Aqua Missouri?

A. I was a Facility Operator.

Q. And what duties does that entail?

A. Basically I was just given a set route of plants that I ran every day and operated them in a compliant manner.

Q. And what does operating a plant on a daily basis entail?

A. Basically visiting the plant every day, checking oils in the blowers, doing all your parameter readings, dissolved oxygen, settleable solids and grabbing samples for the lab.

Q. What's your educational background?

A. I have a high school diploma. I graduated from Dixon High School in Missouri. And I've got an A in wastewater, which is the highest you can get in the State, and I've got a DS-3 and a Class C in water treatment and a voluntary lab analyst, Level D.

Q. All right. Let's go through each one of those.

What is a -- I think probably to be more specific, what is an A in wastewater? That's not the grade you got in class, is it?

A. No, no, no.

Q. What is -- is that a license of some sort?

A. It is a licensed level in wastewater. It's the highest that the State offers. And it just says that I can operate a -- I passed the test and was deemed qualified to run a treatment plant that was set

up to an A license.

Q. And who issues the A license?

A. The Department of Natural Resources.

Q. Okay. What is a DS-3 licence?

A. That is a distribution license, so I can oversee and repair water main breaks.

Q. That doesn't have anything to do with Quail Valley's wastewater plant?

A. No, sir. No, sir.

Q. What is a C license?

A. A C license in water is -- is a basic -- in the middle in the water spectrum, and so I can be an operator at a surface water treatment plant.

Q. Okay. That doesn't have any reference to Quail Valley, does it?

A. No, sir.

Q. And then you have a voluntary lab analyst D license.

A. Yes.

Q. Is that right?

A. What does that entail?

A. That was a test put on by the MWEA, which is Missouri Water Environmental Association, and just deeming me qualified to run BODs, suspended solids, chlorine and ammonias.

Q. Okay. And in that -- when you say run those, what do you mean by run?

A. In a lab. It's a set test parameter.

Q. Okay. Do you have to do continuing education to maintain those licenses?

A. Yes, sir.

Q. What classes have you taken in continuing education that relate to the wastewater side of the job?

A. I've had an entry level course. I have lab analyst courses, activated sludge classes, and that's really all I think of off the top of my head. I know I've had a lot more.

Q. How many hours of continuing education are you required to take each year?

A. Ten hours a year or thirty hours every three years.

Q. Are you familiar with the Quail Valley wastewater treatment facility?

A. Yes, sir, I am.

Q. How are you familiar with it?

A. I supervise that treatment plant and make sure that its effluent parameters meet the State requirements.

Q. Okay. And prior to being Facility

Supervisor, did you do any work on that plant as an operator?

A. Yes.

Q. Was that in your route of responsibility?

A. Part of the time, yes.

Q. Okay. Have you met the Complainant in this case, Mr. Ed Storey?

A. Yes.

Q. Do you recall when you first met Ed Storey?

A. I'm going to have to guess and say it would be late '01, early '02.

Q. Okay. So shortly after you started working?

A. Yeah. Yeah.

Q. And that would be when you were still Aqua Source. Is that correct?

A. Yes.

Q. Okay. Do you recall when Aqua Source was bought by and turned into Aqua Missouri?

A. I want to say in 2003.

Q. Okay. If we kind of talk about Aqua Missouri periodically, do you understand we're talking about Aqua Missouri or Aqua Source?

A. Yes. Yes, I assume that.

Q. Depending on what timeframe it is, it may be one or the other, and we're not going to get into that.

A. Okay.

Q. Okay?

Has Mr. Storey approached you on the location of the Quail Valley wastewater treatment facility?

A. Yes, sir.

Q. Have you had conversations with him at that facility?

A. Yeah, in different spots, whether we were jetting the sewer lines or working on the pump station, just odds and ends, meeting him driving on the road, you know.

Q. Okay. Did he ever request additional connections from you to be hooked up to the --

A. No.

Q. -- wastewater --

A. No.

Q. Let me finish the question. Okay.

Has Mr. Storey ever asked you for additional connections to the Quail Valley wastewater treatment facility?

A. No, sir.

Q. Okay. What's the tenor of the encounters you've had with Mr. Storey over the years at the -- out the Quail Valley?

A. I would say probably 60, 70 percent of the time he's a very cordial individual toward myself, and at other times -- you know, I guess everybody has a bad day. Everybody is a little grouchy from time to time. I mean, I have my days, so . . .

Q. Have you received complaints from your Staff about folks talking to him out at Quail Valley?

A. Yes, sir, I have.

Q. And what do those complaints generally consist of?

A. Just that he's telling them how to do their job, and they feel that they are deemed qualified to do their job without guidance.

Q. Now, does anybody who goes out and is in charge of maintaining the facility not have a license from the State?

A. Yes. I have a couple of trainees.

Q. And do they have to go out with somebody who is licensed when they go out and work on a plant?

A. If they're in their training period, yes.

Q. Okay. Have you ever authorized Mr. Storey to do work on the plant at Quail Valley?

A. No, sir.
Q. Have you ever authorized Mr. Storey to do work on the collection system at Quail Valley?
A. No, sir.
Q. Okay. Have you had meetings with Mr. Storey at the offices of Aqua Missouri?
A. Yes.
Q. Have you ever met with him alone --
A. No.
Q. -- at the office?
Who have you normally met with?
A. Myself and Tena have always been present.
Q. And is Tena your superior at Aqua Missouri?
A. Yes.
Q. Okay. Do you know what her title is?
A. Regional Manager.
Q. Okay. In the meetings that you've had with Mr. Storey at the offices of Aqua Missouri, did he ever request additional hookups to Quail Valley?
A. I was going to say not off the top of my head, no.
Q. To the best of your knowledge, did he ever fill out an application for service at Quail Valley?

A. He has a couple in the past, yes.
Q. Okay. And those that he filled out, were they approved?
A. Yes.
Q. Aside from those, are you aware of any application that he's ever filled out that's been denied?
A. No, sir.
Q. Are you familiar with any applications for an extension of main that's been filled out by Mr. Storey?
A. No, sir.
Q. Okay. Have you ever seen any signed or sealed design plans for main extensions out at Quail Valley?
A. No, sir.
Q. Okay. Do you know what is required by Aqua Missouri for a connection to be approved at a treatment facility such as Quail Valley?
A. Pardon me?
Q. Do you know what is required, what documents, what procedures are required by Aqua Missouri for a connection to be approved at a facility such as Quail Valley?
A. Yes.

Q. And what is required?

A. Basically for a house connection they come out and fill out an application, and we in turn go out and check and see if there is main available. And if there is not main available, then they have to come out and fill out an extension agreement, and we go from there with it.

Q. Okay. And if there is main available?

A. Generally just come in and fill out the application.

Q. Okay. And then you-all go out and do a check, and assuming there is main available, what happens if you find there is main available and they filled out an application?

A. Fill out an application. We go out and do an inspection of the elder valve and the sewer tap in the main to make sure that it's not a faulty tap or bad materials used or something along the lines of that.

Q. Okay. And then they have service at that point?

A. Yes.

Q. Okay. What if there is a main extension required, what is required then?

A. Fill out the developer agreement. We go

out and measure and meet with an engineer and just go through the process.

Q. Okay. To the best of your knowledge, what parts of this process has Mr. Storey completed with respect to Quail Valley in this expansion we're talking about?

A. As far as the main extension?

Q. Yes.

A. None that I'm aware of.

Q. Okay. Is there a fence around the Quail Valley wastewater treatment facility?

A. Yes, sir, there is.

Q. Why is there a fence around that facility?

A. Well, it's required in the DNR regulations (inaudible) --

THE COURT REPORTER: I'm sorry. The DNR regulations and then what?

THE WITNESS: I'm not sure where, but it's in there.

BY MR. ELLINGER:

Q. And what -- and you finished it by saying it's also to keep people out?

A. Yeah.

Q. Are people allowed inside the treatment

facility perimeter without Aqua Missouri's permission?

A. No, sir.

Q. Why not?

A. Just for safety reasons. I mean, if they would fall in or something, I mean, we're at the end of the day liable, in my opinion, for an injury that would occur on our property.

Q. What about for maintaining the integrity of the treatment facility or the system?

A. That as well, yes.

Q. So if people got inside the perimeter, they could disrupt the treatment of the effluent?

A. Yeah. It would be possible, yes.

Q. And then there are security concerns also?

A. Yeah.

Q. Okay. Are you familiar with anybody who has ever trespassed onto the wastewater treatment facility owned by Aqua Missouri?

A. Not to my knowledge.

Q. Are you familiar with the collection system at Quail Valley?

A. Yes.

Q. Can you describe it as you understand how it operates?

A. It has four-inch collector mains in it that are -- that is residential, with septic tanks that feed the collector mains and lift stations to give it velocity to travel through points of the main.

Q. Okay. And I think you heard some discussion earlier and heard a lot of talk about variable grade. Do you understand what that means?

A. Yes.

Q. What does that mean?

A. Basically pipe that is not laid to grade and basically runs like a siphon, in my opinion, to draw the wastewater through the humps in the pipe --

Q. Okay. So --

A. -- or head pressure.

Q. So it may be level pipe?

A. Yes.

Q. It may be negative grade pipe?

A. Yes.

Q. Okay. Now, a positive grade pipe, in other words, a slope to the facility, would be a normal slope or normal grade --

A. Yes.

Q. -- facility?

A. In my opinion, yes.

Q. Okay. Have you jetted the lines at Quail

Valley?

A. Yes, sir.

Q. And how often have you jetted the lines at Quail Valley?

A. Um, we try to keep up on routine maintenance. But as far as telling you when, I really couldn't tell you, because I don't have any logs in front of me. But in emergencies we go out and jet when we're called.

Q. Okay. Do you recall the last time you jetted the lines at Quail Valley?

A. Probably two weeks ago.

Q. Okay. And was that in response to an emergency?

A. Yes, sir, it was.

Q. Okay. How about before that, do you recall jetting prior to that two weeks ago?

A. I want to say it was sometime in '06 that we jetted that as well.

Q. Okay. And you said something about you keep logs. How do you keep logs of when you go out and jet a facility?

A. We keep a log at the shop on our jet truck that says whether we -- you know, who -- or that the truck was ran, the persons that jetted and whether

it was routine maintenance or an emergency.

Q. Okay. And are copies of that log put in the, quote, unquote, Quail Valley file?

A. No, sir. It's just more for my maintenance record.

Q. Okay. So if somebody reviewed the Quail Valley file and all of the work logs in it, there may be some references to jetting but it would not be an exhaustive list?

A. Yeah.

Q. Okay. When you're doing jetting out there, are there certain parts of the system that have to be jetted more frequently than others?

A. Yes.

Q. And what parts would that be?

A. I'm not very good with sense of direction. But it would be along Covey Lane and Canterbury Road. I don't know what side of the lake that would be on.

Q. Fortunately we have a map.

A. Thank you.

Q. Since I knocked everything over up there.

JUDGE JONES: I'll get that. Don't worry about that.

BY MR. ELLINGER:

Q. Does that help refresh your memory?
A. Yes. Me facing the map, it would be on the left side. That would be -- that would be on the west side, I believe.
Q. Over here?
A. Yeah, that is west. Right?
Q. Canterbury Court and Covey Lane?
A. Right through there, yes.
Q. And why do you have to jet that area more frequently?
A. Just because of the -- of the lack of slope.
Q. Okay. So that's that either flat line or negative grade line?
A. Yes, sir.
Q. Okay. The other side of the lake?
A. We have periodically but not very often, because as Ed pointed out, it rarely backs up.
Q. Okay. Is that because it has a lot of grade?
A. I'm assuming.
Q. Okay. Let me hand you -- let me ask you to take a look at what's been marked as Petitioners' Exhibit 8, which is the DNR operating permit. It looks like this (indicating).

A. Exhibit 8?
Q. Yes.
A. Okay.
Q. Have you seen this document before?
A. Yes, sir.
Q. Okay. When you're looking at operating the Quail Valley treatment plant, do you have cause at times to look at this document to make sure that you're in compliance?
A. Yes, around testing time, just to make sure that I'm not over chlorine residuals or over my TSS or fecal limits or BOD.
Q. And you're required to do some flow monitoring under this also, aren't you?
A. Yes, sir, I am.
Q. And what kind of flow monitoring are you required to do?
A. We just do an instantaneous estimate while we're out there, because for our means, with all our plants, that's the -- that's the best way to do it in my opinion.
Q. And how often do you have to submit flow data to the Department of Natural Resources?
A. Once a month.
Q. And when you say "once a month," is that

for one day a month or for a whole month once a month?

A. Going by the permit, it is once a month we have to submit that data.

Q. Is that one day?

A. Yes.

Q. And when you submit that one day's data, do you also do the BOD and TSS monitoring?

A. Yes.

Q. Okay. Do you know what the flow capacity of the Quail Valley treatment plant is?

A. As far as?

Q. Based upon the permit.

A. Based upon the permit. It says on the -- the design flow is 22,000. The actual flow is 14,400.

Q. Do you know where that 22,000 gallon per day number comes from?

A. It comes from the 3.7 number that's been brought up numerous times in this hearing.

Q. And do you know where the 14,400 gallons comes from?

A. That is the average for flow logs.

Q. What are flow logs?

A. Well, our daily logs, operational logs.

Q. And has the treatment facility at Quail Valley from the organic prospective always been in

compliance with the DNR permit?

A. To my knowledge, yes.

Q. And at times has there been hydraulic liquid influent flow that's been in excess of 22,000 gallons per day based upon grab samples?

A. I -- I can't -- do you know what exhibit that was? I remember hearing about them earlier on in the -- in the hearing, yes, that there were a couple of days exceeded, but I don't know exactly.

Q. But there are times when it exceeds the design flow. Correct?

A. Yeah. I believe they said there was a couple of times, yes.

Q. And that information came out of the operational logs that you or your staff maintains?

A. Yes.

MR. ELLINGER: No further questions.

JUDGE JONES: I don't have any questions. Questions from the Staff of the Commission?

MR. KRUEGER: No questions, Your Honor.

JUDGE JONES: Complainant.

MR. LUDWIG: Sure.

CROSS-EXAMINATION

BY MR. LUDWIG:

Q. The monitoring reports that go to DNR are prepared by you. Is that correct?
A. Yes, sir, they are.
Q. And those reports are accurate?
A. Yes.
Q. And you are confident that they are reflective of the operation of that plant?
A. Yes, sir.
Q. And all of the numbers on those reports are well within permit limits. Correct?
A. Yes, sir.
Q. Samples generally are taken between the hours of 7:30 and 4:00?
A. Yes, sir.
Q. And that's also when your flow rates are recorded, between 7:30 and 4:00?
A. Generally, yes, sir.
Q. Would you agree that the highest flow rates are between 7:30 and 8:30 in the morning?
A. I don't have that sheet in front of me, but generally, yes.
Q. So flows taken in the morning will be higher than the actual daily average?
A. Say that one more time.
Q. The flows that are read in the morning,

that 7:30 to 8:30 period, will be higher than the actual daily average?

A. As far as?

Q. Well, you may get a reading of 25,000 in the morning, but that doesn't mean it's running at 25,000 all day?

A. Oh, yes, sir. I understand now, yes, sir. You're correct.

Q. There is going to be low times?

A. Yes.

Q. And this permit that talks about 22,000 gallons per day, that's the average flow for that day?

A. Yes.

Q. So if you have a reading of 30 in the morning, you may have one at 2,000 in the afternoon or in the middle of the morning and it's not going to violate this permit?

A. Yes.

Q. All right. When you take these flow readings at various times of the day, you have a pretty good picture of what is going on over a 24-hour period of time, don't you?

A. They mainly state what it's doing right then and there, but, I mean, that's the number that we use for the time that we're there, because, like I

said, our guys run a pretty extensive route during the day.

Q. And if you wanted to, you could assign one of your men to go out there at six o'clock or seven o'clock in the evening or three o'clock in the morning and you could get some --

A. Yes.

Q. -- flow readings then?

A. Yes, sir.

Q. And you could get samples then?

A. Yes, sir.

Q. Now, the samples on BOD and TSS, regardless of the time of day you're taking those, you're confident they're reflective --

A. Yes.

Q. -- of the operation of the plant?

A. Yes, sir.

Q. And you occasionally sample the influent. Is that correct?

A. Occasionally, yeah. It's not required on the permit, but we do it occasionally.

Q. And would you agree that it's a relatively light load on the plant because of the septic system?

A. Yes, sir, I would.

Q. Is it a fair statement that you have no recollection of being consulted by Tena or anyone else at Aqua in regard to the request for approval to hook up ten homes contained in Mr. Haug's letter of September 14th of 2006?

A. Can you say that one more time, sir?

Q. When Tena received that letter of September 14th of 2006 from Mr. Haug -- and you know what letter I'm talking about?

A. Yes, sir.

Q. You have no recollection of being consulted by Tena or anyone else at Aqua in regard to that request for additional hookups, do you?

A. Not from the top of my head, no, sir.

Q. Okay. And you've read that letter and attachments. Correct?

A. Yes.

Q. And there is nothing in that letter -- that report that you take issue with, is there?

A. Not particularly.

Q. Okay. You don't dispute his analysis of capacity, do you?

A. I'm not -- in my opinion I'm not qualified to.

Q. And you have no idea if there is an

influent infiltration problem at Quail Valley, do you?

A. No, sir, not anything dramatic.

Q. You yourself have done no analysis of the capacity of the plant, and I think you just said you're not qualified to do that?

A. That is correct.

Q. But you haven't noted anything in the plant operation on the logs to indicate that the plant is reaching capacity, have you?

A. No, sir.

Q. You were asked whether you gave Ed permission to do anything with the collection system, and you heard I believe Ed testify that he stuck a hose down in there and unplugged the line.

You would prefer that he do that than to have waste running into the lake, wouldn't you?

A. Yes, but that's also a safety issue as well. I mean --

Q. I mean, if you guys are delayed getting out there and no one answers the answering machine on a weekend or whatever, you'd much prefer that he stick that hose down in there and try to get that line cleared than to have waste running into the lake. Right?

A. From an environmental standpoint, yes.

Q. Okay. And he's still here, so he hasn't lost an arm or a leg or anything else. Right?

When I took Tena's deposition, she said that the maintenance of the plant and the lines is noted in the daily operational logs. Do you agree with that?

A. Depending on who is operating it, yes. Some guys do; some guys don't.

Q. I'm going to hand you what's been marked Petitioners' Exhibit 18. And I tried to keep these in chronological order for the most part. Can you identify those for me?

A. These are operational logs.

Q. All right. And the top one I believe is the month of October of '06?

A. Yes.

Q. And why don't you look and see what the bottom one is.

A. Excuse me.

It appears to be June of '03.

Q. All right. So those logs reflect the operation of the plant -- daily operation from June -- mid June -- or June of 2003 up to the end of 2000-- or October of 2006. Is that right?

A. From my understanding, yes.

Q. Okay. Let me hand you what's been marked -- and I don't know where the original is here. Oh, here it is -- Petitioners' Exhibit 19. And this is two different sets of documents.

I have three months. Do you recognize the top one here?

A. As far as this is part of a sheet.

Q. This is part of a log from October of 2003?

A. Yes.

Q. And there is another one here from December of 2003?

A. Yes.

Q. And there is another one here from March of 2004?

A. Yes.

Q. And then what are the documents underneath that?

A. The documents are emergency maintenance reports.

Q. Now, in those three copies of those operational logs, do you see any entries on there of jetting of lines?

A. Yes.

Q. What do you see on there?

A. I see that -- as far as dates, or what are you looking for?

Q. Yes. Would it be a fair statement that on October 30th of 2003 there is an entry, jetted lines?

A. October 30th of 2000 and -- yes. Hang on.

Q. It's the top one.

A. I believe I seen it. Is it the top one?

Q. Yes.

A. Yes.

Q. And then there is an entry, I believe it's for December 16th of 2003, jetted near Lift Station No. 3 and west end of lake dam?

A. Yes.

Q. And then there is an entry from March 2nd of 2004. It says jetted 1,200 feet also.

A. Yes.

Q. And then we've got these emergency logs which are from October 13th of '07, August 26th of '06, June of '06, another one from June of '06 and one from 10-26-04. Do you see those?

A. Yes, sir.

Q. Would it surprise you if these are the only records of any jetting that were produced in this

case?

A. Say that one more time.

Q. Would it surprise you this is the only evidence of any cleaning of those lines in this case?

A. I don't know how to answer that.

Q. Well, you can look through Exhibit 18 if you want and see if there is any other evidence, but I'll represent that I went through and picked out every one.

A. Okay.

Q. Did you bring those jetting logs that you said wouldn't make it into the Quail Valley file that are on the truck?

A. Well, it didn't occur to me to, I mean, bring them.

Q. All right. So other than what is in front of you there, you can't tell me any time that those lines have been jetted?

A. No, sir.

MR. LUDWIG: All right. That's all I have, Your Honor.

JUDGE JONES: Redirect.

MR. LUDWIG: Your Honor, I would offer Exhibits 18 and 19. And for the record I did not make copies of that voluminous Exhibit 18. The point was

just to get to 19.

MR. ELLINGER: No objection, Judge.

JUDGE JONES: No objection?

MR. KRUEGER: No objection.

JUDGE JONES: Exhibits 18 and 19 are admitted into the record.

(PETITIONERS' EXHIBIT NOS. 18 AND 19 WERE RECEIVED INTO EVIDENCE.)

MR. ELLINGER: Let me ask you a couple of very quick questions here.

REDIRECT EXAMINATION

BY MR. ELLINGER:

Q. You talked -- Mr. Ludwig asked you some questions about taking flow measurements at 7:30, eight o'clock in the morning. Do you recall that?

A. There were some in the log sheets.

Q. And in your opinion is that taking flow measurements at the time when it is a peak flow for the day?

A. It's at its tail end, yes, sir.

Q. So when would the highest flow be in your opinion?

A. I guess that depends on who you talk to.

Q. In your opinion?

A. In my opinion it would probably be

between 6:00 and 8:00. That's my opinion.

Q. He had some questions about Mr. Storey going out and working on -- sticking a hose, I think is what he said, into the line. Do you recall that?

A. Yes.

Q. First of all, if there is an overflow in the system, who is responsible for cleaning it up?

A. An overflow on the system?

Q. If the system backs up and leaks into, say, the lake --

A. Aqua.

Q. -- whose responsibility is that?

A. Aqua.

Q. Whose responsibility is it to clean the lines if it's backed up?

A. Aqua.

Q. Do you receive messages and calls that there are clogs at the Quail Valley facility?

A. As far as?

Q. Phone messages. I notice in these emergency maintenance reports that Mr. Ludwig showed you, they talk about phone messages, phone calls being received.

A. Generally the procedure is to call into the 1-800 number, and then the 1-800 number in turn

dispatches the individual on call, and the dispatcher -- or the dispatcher -- the individual on call responds.

Q. And that's the system that is used, to do when there is concerns about the maintenance of the facility is to call the 800 number. Is that correct?

A. Yes.

Q. And is there an answering service on the 800 number?

A. Yes, sir.

Q. And then what happens if there is -- what's the process that is gone through if there is a message left at the 1-800 number that there is a clog in a main out at Quail Valley?

A. They are then supposed to dispatch the on-call person out, and the on-call person goes out and takes care of that.

Q. And to the best of your knowledge, is that what happens?

A. Yes.

Q. Have you been dispatched?

A. Personally?

Q. Yes.

A. Yes.

Q. And how long is it normally from the

point the call is received until usually you arrive on site to do the maintenance work?

A. There is a couple of variables there, whether or not we have to put water in the truck and whatnot, but generally within an hour I would say --

Q. Okay. So it's not --

A. -- an hour and a half.

Q. It's not a whole weekend or a whole week before you show up to respond to a complaint, is it?

A. I would like to think not, no, sir.

Q. Do you ever recall waiting a week to go out and fix a problem?

A. No, sir.

Q. Okay. Mr. Ludwig asked you some questions about noting what was jetted on these operational logs. Do you recall those questions?

A. Yes.

Q. If there is a problem, is it your job to note it or is it your job to fix it?

A. To fix it.

Q. Sometimes you fix it and you're done and you move on to the next issue. Right?

A. Yes.

Q. So sometimes those notes don't get made, do they?

A. Exactly. As much as we like to do it, sometimes they slip through the cracks.

Q. And are they required to be made?

A. It's good practice.

Q. But is there a requirement that you note when you've jetted a line?

A. We normally try to fill out a jetting log in an emergency maintenance report for emergencies.

Q. Does the Department of Natural Resources require that you submit notes saying when you've jetted the lines?

A. Not when we've jetted, no. Just if a bypass occurs.

Q. Okay. And do you submit those reports when a bypass occurs?

A. Yes.

Q. And you indicated that you didn't bring the jet truck logs. Is that correct?

A. That's correct.

Q. Have you ever been asked by any party to produce jet truck logs?

A. No, sir.

MR. ELLINGER: No further questions, Judge.

JUDGE JONES: You may step down.

THE WITNESS: Thank you.

JUDGE JONES: Call your next witness, please.

MR. ELLINGER: Tena Hale-rush, please.

JUDGE JONES: Ms. Rush, will you raise your right hand, please.

(Witness affirmed.)

JUDGE JONES: Thank you. You may be seated.

DIRECT EXAMINATION

BY MR. ELLINGER:

Q. Would you state your name for the record, please?

A. Tena Hale-rush.

Q. Who is your current employer?

A. Aqua Missouri.

Q. And what is your occupation?

A. Regional manager.

Q. How long have you worked for Aqua Missouri?

A. Since August of 2003.

Q. Okay. And who did you work for prior to August of 2003?

A. Aqua Source and then Capital Utilities and Water Management Services since 1992.

Q. Okay. What are your job duties in your current position with Aqua Missouri?

A. I have all of the oversight and management of the operations that are owned in the state of Missouri, throughout the state, waters and wastewater facilities. I, like I said, manage both administration and operations.

Q. And how long have you had those job duties?

A. Since, I believe 2001, Regional Manager.

Q. So the whole time you've worked for Aqua Missouri you've had that responsibility?

A. For Aqua Missouri, yes.

Q. And then for the whole time you worked for Aqua Source?

A. No. Aqua Source I was Area Manager.

Q. Okay. What were your job duties with Aqua Source as an Area Manager?

A. Basically administration functions as the primary and just partial operations.

Q. Okay. Are you familiar with the Quail Valley wastewater treatment facility?

A. Yes.

Q. How are you familiar with that facility?

A. I have visited the facility. I've been

out there during operations. I've assisted in operating the facility. I've also been out there when they had emergency calls.

Q. And do you hold licensure from the Department of Natural Resources?

A. Yes, I do.

Q. What licenses do you hold?

A. I have A wastewater and C water, a DS-2 distribution.

Q. And a DS-2 deals with water systems. Correct?

A. Water distribution of transmission lines.

Q. So that would have no application out at Quail Valley?

A. Correct.

Q. And a C water would have no application to Quail Valley, would it not?

A. Correct.

Q. But an A wastewater, that would have application to wastewater treatment facilities. Right?

A. Yes.

Q. How long have you had an A wastewater license?

A. I believe it's 2001. I'd have to check,

but I believe it to be 2001.

Q. Do you have to maintain continuing education to keep that license?

A. Yes, 30 hours every three years. And I did have another level of license prior to my A. I've held a C, a B and then an A.

Q. Are those progressive licenses?

A. Yes, they're progressive licenses.

Q. Is A the highest license for wastewater treatment that is issued by the Department of Natural Resources?

A. Yes, it is. And it is based upon years of experience and what you have done in the job before you can even test for it.

Q. Okay. So it's almost like a residency program?

A. Yes. Correct.

Q. When was the first time you met with Mr. Ed Storey?

A. I cannot give you an exact date, but I do know that I did meet with him sometime early in 2002 on an issue of a deed --

Q. Okay.

A. -- for Quail Valley.

Q. First of all, were there other folks

present in that meeting?

A. Yes, there are. It is kind of in-house spoken policy that when we do have a meeting with a developer, that we do usually have a facility operator or an operator that is related to that facility present.

Q. Okay. Tell me a little bit about this first meeting with Mr. Storey.

A. When Mr. Storey first came to us, he had just a simple piece of paper, I believe, from a Mr. Don Friede at Murdon and just discussed that he might want to perhaps develop the undeveloped areas of Quail Valley.

And at that time, in search of our property records of Aqua Source, they developed -- we did -- or came to that we did not have a deed and that he was instructed to provide us a deed of the property before we would move further in the discussions.

Q. Okay. And was a deed ultimately provided to you?

A. At the end of 2002. I believe it to be dated maybe November 2002.

Q. Okay. So after November 2002 you then had deed title to the treatment facility. Is that correct?

A. Right, after November 2002.

Q. Okay. Did you have further discussions with Mr. Storey regarding Quail Valley after you received the deed?

A. After the deed, I believe the next time I met with him was probably in March of -- let me think.

It's either March of '04 or March of '05. He had discussed wanting to develop again the undeveloped areas, and, you know, the treatment plants that that would involve.

And then he brought a Mr. Wilbur Krogstad in another meeting after that with him and introduced him as the engineer. And I believe he had shared with Wilbur what he had talked to Don Friede at Murdon about, because he had supplied that information to Wilbur.

And he asked if we would work with Mr. Krogstad as an engineer toward getting those 22 lots and the main extension of the capacity of the plant upgraded. We told him that we would.

And we did meet with Mr. Krogstad and go out and look at the treatment plant several times toward the capacity and worked closely with Wilbur and believed that what he was coming up would work for expansion of the treatment plant, which was adding on

to the Murdon plant.

Q. I'd ask you to take a look at what's been previously marked as Aqua Missouri Exhibit No. 22. It should be in that pile in front of you.

A. Does it have a title?

Q. It's the letter from Mr. Krogstad.

A. I have it.

Q. Do you have Exhibit 22 in front of you?

A. Yes, I do.

Q. Is this the letter you received from Mr. Krogstad about the expansion of the plant?

A. Yes, it is. And attached to it is what Mr. Storey first presented to him from Don Friede at Murdon.

Q. I'd also ask you to take a look at Exhibit No. 23, which is a letter from Murdon. Do you have that document in front of you?

A. Exhibit 23, yes, I do.

Q. Okay. And is that your understanding of the proposed treatment from Murdon Engineering?

A. This is what was presented to us from Mr. Storey, and then, again, he passed it on to Mr. Krogstad.

Q. Okay. Now, you're familiar with what happened ultimately with Mr. Krogstad?

A. I have visited with him, yes, and I know what he directly said to me, yes.

Q. And what were the substance of those conversations?

A. Mr. Krogstad said that he was retained by Ed, you know, to look at the plant toward putting capacity on to it, and that instead of the various things that he could have done, that Ed told him the easiest thing to do to add these 22 for everybody interested would be just to add capacity to the treatment plant.

Mr. Krogstad came up with this letter. And when I asked him why I had not heard from him for some period of time, he said that Mr. Storey told him that he was going to leave for the winter and that he would decide what he wanted to do when he returned in the spring.

And Mr. Krogstad told me that when Mr. Storey had returned, he was under the understanding that he had then hired Mr. Haug and was not going to use Mr. Krogstad's services any longer.

Q. Do you know roughly what time you had that last conversation with Mr. Krogstad?

A. The last conversation I had with Mr. Krogstad was about a week to two weeks ago.

Q. Let me rephrase that then.

Do you recall when you had the conversation with Mr. Krogstad when he said he was no longer going to be working for Mr. Storey and that Mr. Storey hired Mr. Haug?

A. It was in 2005 after I received this letter for him. That's when he indicated that Mr. Storey was going to leave for the winter.

Q. So at that point you had been working with Mr. Storey's engineer?

A. Extensively.

Aaron and I had both went out to Mr. Krogstad and another gentleman that worked with him. We looked at the plant. We looked at the whole system. Again, we all thought that we were working toward this Murdon proposal here.

Q. Did Mr. Storey ever tell you that he thought he could just hook on the extra 22 lots without expanding the capacity?

A. No. He was aware that it needed main, and he brought this to us telling us he was aware that the 22 would need a capacity upgrade of the plant.

Q. There was discussion earlier, you may recall, from one of the other witnesses, I believe that it was Mr. Merciel, that said that it wasn't

appropriate for the company, Aqua Missouri, to mandate developers to go to engineers. Do you recall that?

A. Yes.

Q. Did you tell Mr. Storey he needed to retain an engineer?

A. No. Mr. Storey came to me with already a retained engineer.

Q. Okay. Ultimately that expansion -- strike that. Let me rephrase it.

Did Mr. Krogstad ever tell you that you should be able to hook up these extra 22 lots without an expansion of capacity at Quail Valley?

A. No, he did not.

Q. Did Mr. Storey sign a developer agreement?

A. There is an old one in the file that was signed years ago with Capital Utilities. Has he signed a current one on this project? No.

Q. Okay. And that original one that was signed with Capital Utilities, what did that relate to?

A. It appears to relate to when the plant was first put in, the original plant.

Q. Okay. And take a look at Exhibit 28, which I believe is that sewer extension agreement.

A. Okay.
Q. Is that the developer agreement you were talking about?
A. Yes.
Q. And has that developer agreement ever been rejected by Aqua Missouri?
A. This one, as far as I'm aware of, no. It looks like it was put into effect.
Q. Okay. And it contains the normal information a developer agreement would contain?
A. Yes, it does.
Q. Okay. And does it include a plat?
A. Yes, it does.
Q. And I'd like you to take a look at that plat and tell me if there is -- where the 22 homes that are now being sought to be connected are located on the plat that was attached to the original sewer extension agreement.
A. They're easier seeing there, but they are marked Future Development.
Q. Were they platted on the original?
A. No, they are not. It's just a section called Future Development.
Q. I'd ask you to take a look at Petitioners' Exhibit No. 1, which is -- the first page

is simply a plat page.

A. It looks like that (indicating)?

Q. It's what they handed me.

A. Okay. No. 1.

Q. If you'd look at the first page of that document.

A. Okay.

Q. Do you know where the 22 new homes that were being sought to be connected are contained on this plat?

A. The big area called Future Development.

Q. Are they platted on Petitioners' Exhibit 1?

A. No, they are not.

Q. Okay. I'd like you to take a look at Petitioners' Exhibit 2, which is this large map. Do you see that?

A. Yes.

Q. Do you see an area that is bounded by blue marker?

A. Yes.

Q. Okay. Have you ever seen that platting of those lots before?

A. No. And I had always seen it blank like this and told -- I was told that it was 22 lots.

Q. Okay. And have you counted the number of lots that are up here?

A. No, I have not.

Q. If I told you there is only 16 on that, would that look reasonable to you looking at that boundary?

A. It looks reasonable from here.

Q. And that's on this future development land. Correct?

A. Correct.

Q. Okay. Just to make sure we know that matches up with Exhibit 1.

A. Yes.

Q. When did you find out that Mr. Storey was not interested in expanding the wastewater treatment facility?

A. I wouldn't say that I found out that he wasn't interested in expanding it. What I would say is I found out when he brought Mr. Haug upon the scene that the discussion then turned to ten lots that were on the main that existed, and the conversation of the main extension of the 22 then changed. It was kind of dropped.

And when Mr. Haug came on the scene around December of '05, I believe is the first meeting

we had with him, was when they started discussing, would we hook up ten lots that currently had main in front of them.

Q. Okay. Excuse me. When Mr. Haug had these initials conversations with you, from that point until the complaint was filed in this case, did you ever have another discussion with Mr. Storey or Mr. Haug about the connection of the 22 lots in this development?

A. No. The focus was on hooking up the increments of ten lots one at a time and assessing the treatment facility as we went.

Q. Okay. Ultimately you did receive a letter from Mr. Haug, did you not?

A. Yes.

Q. And I don't recall what the exhibit number is on that. It's an exhibit that is sitting in front of you.

A. Okay.

Q. Is that 12, I believe, Petitioners' Exhibit 12?

Yeah. It looks like this (indicating).

A. Yeah, there is a lot of paper here. What's it dated?

Q. September 14, 2006.

MR. ELLINGER: May I approach the witness and help her find that, Judge?

JUDGE JONES: Yes.

THE WITNESS: There is just a lot of paper sitting here.

Okay. The last pile.

BY MR. ELLINGER:

Q. Do you have Petitioners' Exhibit 12 in front of you?

A. Yes, I do.

Q. Okay. Is this the first time that you ever heard that there was excess capacity of up to 40 new connections?

A. This is the first time I'd seen, yeah, anything in writing that there was 40, because we always talked about, you know, just perhaps hooking into ten. And there was concern that perhaps there wasn't even capacity for the whole ten when we had discussions.

Mr. Storey had indicated that he owned these lots and that they could be controlled by him and that he would build a home and we'd look at the plant or they'd build a couple of homes and we would continue to have watch over the treatment plant and work hand in hand toward the plant, you know, not

becoming out of compliance, and that then when Aqua Missouri said to stop, that it was enough, that our plants were having trouble, that he agreed he would stop.

Q. Okay. And did you move forward on that agreement?

A. That's what -- yes.

Q. Did Mr. Storey move forward on that agreement?

A. Well, by the September 14th letter here, it appears that he was moving forward on it, because he does recommend, even though they do cloud it with some other numbers, it does say that Mr. Storey does request approval to hook up 90 homes, which is the additional ten. And it says allow a total of 90 from the Quail Valley to be hooked up.

Q. And were you willing to allow 90 homes to be hooked up?

Let me rephrase that. Was Aqua Missouri willing to allow 90 homes to be hooked up to the Quail Valley treatment facility?

A. Yes.

Q. Did you have an agreement prepared to that effect?

A. Yes.

Q. Was that ever signed by Mr. Storey?
A. No. They refused to sign the agreement.
Q. Okay. What's the process that Aqua Missouri uses for a person to connect a home to the Quail Valley wastewater treatment facility?
A. According to our tariff is the application process. They would come in and fill out an application. If it's an individual, it's a different application. And it is then handed off to the field, and they go out to make sure that there are mains there, a way for the home to hook into the treatment facility.

If it is a developer, he's given a different application, because he would list the various lots that he is asking to hook to our system.

Again, there is a review process of going out to see if those various lots have main or if they could be hooked on to it.

After that review process we would move on to the second level. If there was main and availability to be connected, they would be. They would have to pay a $75 inspection fee and purchase an elder valve if it was a gravity system.

If it was a developer and there were no mains there, we would do a developer extension

agreement. We would collect an estimate of cost and a deposit, much like he did in the first one, would be put up with our company.

We would then acquire all of the necessary DNR permits and engineering and construction bids, and the process would begin once those permits were received.

As the document says, if the project goes over, the developer pays the additional cost. If it goes under the deposit, he would be refunded those.

Q. You received this letter from Mr. Haug dated September 14, 2006. Is that correct?

A. Yes.

Q. Did you ever receive an application for service with this letter?

A. No, I did not.

Q. Have you ever received an application for service from Mr. Haug, Mr. Ludwig or Mr. Storey regarding connecting lots out at Quail Valley?

A. Not connecting these ten. I believe the last application received from Mr. Storey or his construction company, Greater Jefferson City, I believe is dated 2005, and I believe it is contained somewhere in the files.

Q. And the process that you talked about

dealing with the application, that is contained in the tariff of Aqua Missouri?

A. Yes, it is. If you refer to our tariff, I believe it is 4(a).

Q. Okay.

A. Is there a tariff in this?

Q. I think there is a tariff over there. I think it's handed back.

Is that a copy of the tariff you were talking about?

A. Yes, it is.

Q. Okay. On page SRR 14, Rule 4, applications for sewer systems, number A: A written application for service signed by the customer and accompanied by the appropriate fees and other information required by these rules and regulations must be received from each customer before service is provided to any premises.

Said application must state the name of the owner of said premises, and in the case of a commercial or industrial customer, must also state the quantity and contents of effluent to the discharge from said premises and to company sewer system.

Every customer upon signing an application for any service rendered by the company or

upon taking of service shall be considered to have express consent to the company's rates, rules and regulations. The company shall have the right to refuse service for failure to comply with the rules and regulations herein.

Or if the customer has a past-due bill not in dispute for any sewer service at any location within the company's area.

In any case where unusual construction or equipment expense is necessary to furnish the service, the company may require a contract specifying a reasonable period of time for the company to provide the service.

Q. Okay.

A. The company shall --

Q. It's a rather long provision, isn't it?

A. Yes, it is.

Q. The tariff is kind of wordy, isn't it?

A. Yes.

Q. That's the process that you're required, it's your understanding, to follow to allow service to be extended at Quail Valley?

A. Yes. I am required to follow my tariff.

Q. Okay. Are you allowed to preapprove people to hook up homes without an application for

service?

A. According to my tariff, I must have an application.

Q. Okay. Since you've been at Aqua Missouri or its predecessor, how many connections have been applied for at Quail Valley, if you recall?

A. In the file, I don't recall how many, but I believe what we were able to come with the file represented maybe five to seven.

Q. And how many of those applications were accepted?

A. All of them.

Q. To the best of your knowledge, as long as you've been at Aqua Missouri or its predecessors, have you ever denied an application for service at Quail Valley?

A. Not to my knowledge.

Q. Did you ever deny an application for extension of mains at Quail Valley?

A. Not to my knowledge.

Q. Okay. You understand that Mr. Storey in this complaint is asking for 32 new connections out at Quail Valley?

A. I do now, yes.

Q. Okay. Has he ever asked for those

32 connections before?

A. He had asked for 22 separately as far as a capacity upgrade to the treatment plant alone, and then most recently he come and discussed only ten, but the conversations were not blended of the 32.

Q. And of those 32, is it your understanding that 20 or 22 or perhaps 16 -- the number keeps moving -- do not have sewer main in front of them?

A. It is my understanding they do not have sewer main.

Q. Okay. And with respect to those that do not have sewer main, what's the procedure for connecting those lots? Is that that application for extension of main we talked about?

A. The application, then a review and then a developer agreement with an estimate of cost and then a deposit put up.

Q. And none of that has happened?

A. No, it has not.

Q. Okay. What are the construction permitting requirements for an extension of main?

A. We would have to submit to DNR a filled-out application with a design, certified by an engineer with all of the pertinent data, and submit it to DNR with the necessary fee.

Q. And have those construction plans been submitted to you or to DNR for that main extension?

A. I have not seen any construction plans to submit.

Q. Have you denied an application for extension of mains for those 20?

A. No, I have not denied an application.

Q. Do you know if DNR has issued an approval of construction of mains?

A. Not that I am aware of.

Q. Have you ever been involved in a meeting with the Department of Natural Resources regarding the Quail Valley wastewater treatment facility?

A. No, I have not.

Q. Have you been in any meetings with Ed Storey or Mr. Ludwig or Mr. Haug and the Department of Natural Resources regarding Quail Valley?

A. No, I have not.

Q. From the testimony over the last two days, do you understand that such meetings occurred between Mr. Storey and the Department of Natural Resources?

A. Yes, I do.

Q. Did you receive some correspondence in follow-up to that?

A. The correspondence was directed to DNR, I believe. I think it's an exhibit.

Q. If you'd take a look at, say, Exhibit 31. It's a letter from DNR, Mr. Forck.

A. Is it dated May 5th?

Q. Yes, ma'am.

A. Okay.

Q. Do you have that letter in front of you?

A. Yes, I do.

Q. Would you look at the last page and see who was copied on that letter.

A. Yes. ReSource Institute, Ed Galbraith, John Hoke and Aqua Missouri.

Q. So you received a copy of Mr. Forck's letter. Correct?

A. Which was the first I knew that there was a meeting held.

Q. Okay. And were you invited to that meeting that is referenced in that letter?

A. No, I was not.

Q. And just so we're all clear, who owns the wastewater treatment facility as of 2006 at Quail Valley?

A. Aqua Missouri.

Q. Quail Valley's system has septic tanks on

the individual lots, doesn't it?

A. Yes.

Q. Who is responsible for maintaining those septic tanks?

A. The homeowner.

Q. If those septic tanks are not pumped, does that have an effect upon the treatment facility?

A. Yes, it does.

Q. And what is that effect?

A. If the septic tanks allow solids to enter into that system, it is a small diameter system, as you discussed, with variable grades, and it's harder to move those solids out of the lines into the treatment plant. So clogging can occur.

If they do enter the treatment plant, as you can tell by the original design here and by the professional's testimony, it is not designed to hold those extra solids. It was designed for those solids to be retained in the septic tanks.

Q. Okay. Does Aqua Missouri have any control over the pumping of the septic tanks at Quail Valley?

A. No, we do not.

Q. Do you do pumping of septic tanks?

A. Yes, we do.

Q. Do you have the capability to test septic tanks?

A. Yes, we do.

Q. And do you have the right to go on to other people's property and check their septic tanks?

A. We would not do that without their permission.

Q. Okay. Has the Quail Valley Homeowner's Association given Aqua Missouri authority to enforce the bylaw that's been discussed about pumping tanks?

A. No authority has been given to us.

Q. Okay. How many wastewater treatment facilities are you responsible for overseeing?

A. Approximately 56 in this area and two in other parts of the state.

Q. Of those, how many of them have septic tank systems such as what is at Quail Valley?

A. Approximately seven.

Q. And do the same issue that relate to Quail Valley relate to those other systems; in other words, the solids are supposed to be kept in septic tanks?

A. We do not have issues in the other systems because the pipe is laid to grade so that it will move the feet per second toward the plant and the

clogging does not occur.

Q. You've heard some discussion about jetting the pipes?

A. Yes.

Q. Is it the practice of Aqua Missouri to go out and jet pipes at the Quail Valley wastewater treatment facility?

A. We have only six operators in this area for those 56 treatment plant. And as much as we like to be proactive, yes, proactive, we do like to go out and jet as often as time does permit. Oftentime time will not permit due to employee restraints, but it is a practice that we do like to do it, even if it's just once a year.

Q. I believe Mr. Ludwig on the first day asked some questions -- and I can't remember if it was to Mr. Storey or to Mr. Haug -- but he said something about how he can't imagine why Aqua Missouri wouldn't take the connections. It's just additional revenue that comes in.

Do you recall that general line of questioning?

A. Yes, I do.

Q. If these, say, 32 homes were connected, Aqua Missouri would get some additional revenue, would

it not?

A. It would get some additional revenue. But at this time, according to our annual report on file with the PSC, we are losing money in this area.

Q. And that loss of money, how does that affect the operations out at Quail Valley?

A. It affects how many employees I can have, you know, in order to be able to operate it, and it also-- you know, that we continue to operate at a loss of income in the state.

Q. And if those additional connections were put on the system and it caused a problem with the effluent, whose responsibility would that be?

A. That would be Aqua Missouri.

Q. And what is the recourse through the Department of Natural Resources if there is an overflow or a permit violation with respect to the effluent?

A. More spending costs by the company, whether in fines or in compliance orders.

Q. Let me ask you to take a look at Exhibit 29, which is the Draft Wastewater Treatment Facilities Report of Mr. Haug. It's a relatively thick document.

It looks like this (indicating).

A. Okay. It says six -- oh, 16 and 29. Okay.

Q. It should at the bottom say Exhibit Aqua Missouri -- AMO Exhibit 29. Do you have that in front of you?

A. Yes, I do.

Q. You've heard a lot of testimony about this yesterday by Mr. Haug. Correct?

A. Yes.

Q. Did you ever receive a copy of this report?

A. No, I did not.

Q. When is the first time you ever saw a copy of this report?

A. I saw it in his deposition, but I have never read through it or reviewed it.

Q. And that deposition was the deposition that was taken last Monday?

A. Yes.

Q. Which would be the 22nd --

A. Yes.

Q. -- of October?

A. I have never had a chance to read it.

Q. If you would take a look, get the right page here, at page 21 of that report.

A. Okay.

Q. Down at the bottom, the last paragraph of Section G, starting therefore. Do you see where I'm at?

A. Yes.

Q. It says, "Therefore, based upon meetings with the leadership of the Homeowner's Association and Aqua Missouri, Inc. the proposed alternative is" blank. Do you see that?

A. Uh-huh.

Q. Did you ever have any meetings with the Homeowner's Association to discuss these four alternatives that are contained in the report of Mr. Haug?

A. Not that I'm aware of or that anybody presented to me that they were the Homeowner's Association.

Q. Do you recall seeing a letter from the Department of Natural Resources requesting that a joint report of capacity be submitted for DNR review?

A. I believe it's here in the exhibit, yes.

Q. It's in Mr. Forck's letter, I believe, which is Exhibit 31. You were looking at it just a minute ago.

A. I just had it.

Q. That's dated March 5th, '06.
A. March 5th, '06, Exhibit 31.
Q. First of all, who is that letter addressed to?
A. It is addressed to Mr. Edward Storey
Q. And could you turn to the last page.
Is there a recommendation that a joint report on capacity be submitted for DNR's review?
A. It recommends that you coordinate with Aqua Missouri and submit a short report, yes.
Q. Were you ever contacted by Mr. Storey to coordinate and submit a short report to DNR?
A. No, I've not been requested a report.
Q. Did Mr. Haug request you to submit a short report to DNR?
A. No.
Q. Under the tariff that Aqua Missouri operates under, what are the costs and expenses that a developer is responsible for paying for?
A. It would be all of the costs as stated associating it with main extensions. That would entail, of course, an engineer for engineering, any surveying that was not done, any easements, permits, construction costs, materials, labor, administrative labor. It encompasses all costs associated with the

project.

Q. And that includes, I think you said, engineering costs?

A. Yes, it does.

Q. And what do those engineering costs entail?

A. It would be the engineer that was hired for the, you know, studying, surveying, design, whatever, to come up and produce the design to be submitted to DNR and to seal and certify it.

Q. And the calculations of capacity of the facility, would that be a component of those engineering costs?

A. Yes, it would.

Q. That's borne by the developer?

A. Yes, it is.

Q. Okay. A couple final questions.

If you'd take a look at Petitioners' Exhibit 8, which is the operating permit for Quail Valley.

A. Exhibit 8 or 9?

Q. Well, at the bottom it says both, but for purposes of today it's Petitioners' Exhibit 8.

Do you have that in front you have?

A. Yes.

Q. Is this the operating permit under which the Quail Valley wastewater treatment facility is operated?

A. Yes.

Q. To the best of your knowledge, is that facility operating within the permit limits?

A. To the best of my knowledge, yes.

Q. To the best of your knowledge, do you believe that it is at or approaching capacity?

A. To the best of my knowledge, with the information and the discussions I've had with operational people and engineer, yes, I believe so.

MR. ELLINGER: I have no further questions, Judge.

I would offer the admission of Aqua Missouri Exhibits 20 through 35.

JUDGE JONES: Any objections?

MR. LUDWIG: I don't believe so, Your Honor.

MR. KRUEGER: No, Your Honor.

JUDGE JONES: Okay. Exhibits 20 through 35 are admitted into the record.

(RESPONDENT'S EXHIBIT NOS. 20 THROUGH 35 WERE RECEIVED INTO EVIDENCE.)

MR. ELLINGER: Thank you, Judge.

JUDGE JONES: I have a couple questions.

THE WITNESS: Sure.

QUESTIONS

BY JUDGE JONES:

Q. You mentioned earlier something about 22 homes -- or connections being requested and then later it was changed?

A. Yes.

Q. What were the circumstances surrounding that original request of 22 homes?

A. That would have been the first engineer that he used, which was Mr. Wilbur Krogstad.

The conditions was, he had came in and he said that he wanted to develop the future lots and that he had hired Mr. Wilbur Krogstad to expand the plant for the capacity and extend the mains for that to service that future development area.

Q. And then when he changed to 32 homes, that was with the new engineer or --

A. No. The new engineer we only discussed ten.

Q. Well, where does 32 come in?

A. When they filed the complaint here.

JUDGE JONES: Okay. Mr. Krueger, do you have any cross-examination?

MR. KRUEGER: Thank you, Your Honor.

CROSS-EXAMINATION

BY MR. KRUEGER:

Q. Good afternoon.

A. Good afternoon.

Q. I want to make sure that I have an understanding about how many connections were requested at various times.

A. Okay.

Q. Is it fair to say that your original understanding was that the sewage treatment plant would serve 80 homes?

A. Is it my understanding?

Q. Yes.

A. By Mr. Ewing's certification that came to us from the DNR file, it is my understanding it was designed for 80 homes.

Q. Okay. When did you first become aware that Mr. Storey wanted to hook up more than 80 homes?

A. He first came to me with Wilbur Krogstad, and he wanted to do an extension of future development lots that did not have main and the number 22 was discussed.

Q. And when was that?

A. That was in -- let me see Mr. Krogstad's

letter here -- '05.

Q. So 2005 was the first time that you ever heard anything about any number greater than 80?

A. Yes. This was the 22, yes.

Q. Okay. And the number 90 has also been mentioned. When did you first hear that number?

A. When he came to us with Mr. Haug, that's when they proposed the 10 that have main in front of them be periodically connected, for a total of 10 over the 80, coming to the 90.

Q. And when was that?

A. We first met -- the first preliminary meeting was December of '05, but Mr. Haug produced this letter and information -- there is a September 14th, '06 report on it.

Q. And then you mentioned that the 32 was first mentioned in the amended complaint. Is that right?

A. Yes.

Q. Okay. And are those the only numbers that have been mentioned for connections over and above 80?

A. Twenty-two and ten, yes, sir.

Q. Okay. Do you remember giving your deposition?

A. Yes, sir.

Q. A question that was asked is, well, whether you had a meeting with Ed in 2002 or not. At least as of 2004 you knew Mr. Storey had an interest in hooking up more homes to the Quail Valley wastewater facility. Correct?

And your answer was, there is an exhibit that was given to you on Friday, a letter by Brenda Bethel.

Question: Right.

Answer: To Mr. Storey.

And then it says question, right, when I received a CC copy of that, I then knew Mr. Storey was interested in expanding per -- I believe the letter says 22 connections.

Was that actually your statement rather than a question, the last thing I read?

A. What it is, is Mr. Krogstad had came to us, and there is no conversation. When he goes to Brenda Storey -- Brenda Bethel in 2004, the letter --

Q. Okay.

A. -- to her.

Q. This portion of the deposition transcript refers to 2004?

A. Uh-huh. Yes.

Q. Is that the time we're talking about?
A. The Brenda Bethel letter.
Q. And so were you aware at that time that there was a request for 22 additional connections?
A. That request he made to her we had not talked about. He had went to Brenda. The letter is directed to it.
Q. Okay. I understood from reading this part of the deposition transcript that you knew in 2004 that they were -- that he was asking for 22 connections. Is that incorrect or not?
A. He came to me with Mr. Krogstad in 2005 for the 22. He went to Brenda Bethel on his own in 2004.
Q. Okay. So the first time you heard about 22 is in 2005?
A. Meeting with me, yes.
Q. Now, you testified that you would not be willing to go on to the property of the customers to pump out septic tanks. Correct?
A. If we were requested to and the customer was aware, sure.
Q. If there was an authorization for you to do that, would you find it beneficial to do that, or beneficial to have that authority?

A. If I had the manpower and the equipment to continually pump out septic tanks, it would be beneficial, but I do not have the manpower or the equipment to provide such a service.

Q. Mr. Ellinger asked you if you believed that the plant was approaching capacity. Do you remember that question --

A. Yes, I do.

Q. -- and your answer?

He didn't say what he meant by capacity. I'd like to know what you understood capacity to mean when you said that you believed it is approaching capacity.

A. I believe that it is approaching capacity because Aqua Missouri is responsible for the effluent of that home, and the more homes that you do add, it brings solid into that treatment plant.

And even though on good faith the homeowners have cleaned out their septic tanks, we still have no assurance that that will occur.

So these septic tanks, as they get older and solids come in there and then you're going to add ten more homes, knowing that is certified in the design for 80 homes and you're already willing to take 10 extra, then I believe it is at or near capacity,

and that we are willing to be the ones to take on that risk by agreeing to the ten.

Q. So you believe it's approaching capacity because you don't believe that the quality of the effluent can be maintained if more homes are connected. Is that right?

A. I know that that is a small package plant, and I know that you have to closely monitor it, and the solids have to be hauled out of it. The clarifiers are labor intensive as far as keeping them cleaned and scraped. I do know that the operator is doing a good job of operating it.

Q. But the thing you're concerned about is the quality of the effluent?

A. Yes, the quality of the water effluent and can that plant perform with extra solids coming in.

Q. It has performed well, has it not?

A. It has been operated well; therefore, performed well.

Q. Okay. And were you also concerned about hydraulic capacity?

A. Yes.

Q. And why is that?

A. My Staff has shared with me on several

occasions what a rain event will do out there at that system, and it seems to be that if we are going to have a system -- a problem with those mains, it seems like it does follow during a rain event.

Q. The problems that result are problems in the mains or in the treatment facility?

A. Excuse me. Could you --

Q. You said problems follow a main -- rain event.

A. A rain event.

Q. Did you say that?

A. Well, of course, the rain -- the plant will get the inflow of the higher flow during a rain event. You will get higher flow. And, sure, you always have to watch a small package plant so there is no washout, depending on how much you have to get a flash flood.

But, you know, some rain enters the plant on its own. But the mains tend to -- you know, they were talking about the septic tanks and how the water backs up into the cleanouts and into the septic tanks as a holding, and it will eventually come to the plant.

Q. The concern, though, is over the inadequacy of the collection system?

A. I'd say a little bit of both.

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

JUDGE JONES: Mr. Ludwig.

MR. LUDWIG: Yes, Your Honor.

(PETITIONERS' EXHIBIT NOS. 41 THROUGH 50 WERE MARKED FOR IDENTIFICATION BY THE COURT REPORTER.)

CROSS-EXAMINATION

BY MR. LUDWIG:

Q. You've been with Aqua, I believe you said, since '92?

A. Yes.

Q. So you were there with Capital Utilities, Aqua Source and Aqua America and Aqua Missouri?

A. Correct.

Q. Okay. You're not an engineer?

A. No, I am not.

Q. The exhibit marked -- I believe it's 18 -- are the operational notes that you produced at your deposition. Is that correct?

A. 18 or 2?

Q. Well, the one --

A. Are they marked the same?

Q. Yeah. Well, I mean, part of those were actually produced earlier, but the rest of them you

produced at your deposition?

A. Correct.

Q. All right. You told me that those records would -- those operational records would include the maintenance of the lines in the plant. Correct?

A. Correct. Unless it was something that needed their immediate attention.

Q. Right. Like an emergency?

A. Like, if they went there and something was not operating, they would want to stop and fix it right then and there.

Q. Routine and ordinary maintenance would be included?

A. Yes. Like if there is something that they would maybe want to note later, that they could come back, that could wait, or perhaps needed a two-man job.

Q. Okay. And you heard my question to Aaron a while ago, that there is only three notes anywhere in those four years of operational logs that indicates that there was any jetting done?

A. Yes, I did.

Q. All right. You also told me that the precipitation notations in there are taken from rain

gauges at the facility. Correct?

A. To my knowledge they have rain gauges at the facility. They also have informed me they have a backup rain gauge at their shop.

Q. But there is one at the facility, and you would expect that if there is rain in that rain gauge, they would note that on those operational logs. Correct?

A. I would expect so.

Q. All right. Now, you testified on direct a while ago that your first knowledge of Mr. Storey wanting to expand the plant was when you got -- he brought you a letter from Mr. Murdon in 2002. Do you remember saying that?

A. Mr. Murdon letter's is dated 2004.

Q. Exactly.

A. Right.

Q. But you said in direct -- first you used the date 2002, and you said he brought you that letter from Murdon, and when you looked at it, you realized there was a problem with the deed and then there is some -- eventually the deed was corrected and filed and everything else?

A. Yes. He did talk to us about a drawing from Murdon, maybe not particularly a letter, but he

has always had a drawing from Murdon.

Q. What really prompted the 2002 inquiry was when Mr. Storey asked you if he could hook up any more lots and you told him 80 is all you get. Isn't that true?

A. Mr. Storey came to us wanting to expand the facility. When we researched the records, we realized we didn't have a deed in them.

Q. And the deed was done in 2002?

A. November of 2002.

Q. But what really happened, like I said, is Mr. Storey asked you for additional hookups and you said, no. That's what prompted him to look for expansion. Isn't that true?

MR. ELLINGER: Asked and answered, Judge.

JUDGE JONES: Well, she hasn't answered, not yes or no.

Ask your question again.

THE WITNESS: Ask it again, please.

BY MR. LUDWIG:

Q. What prompted him looking to expand the plant is when he came to you -- or talked to you in 2002 and said I would like to add some more. You said no. You're at 80. That's all you get. Isn't that true?

A. No.
Q. It's not true?
A. No.
Q. All right. So Mr. Storey is a liar?
A. That was not the way it was stated to him.
Q. Well, what was stated to him in 2002?
A. If the plant would require an extension for 22 homes and a capacity upgrade, he would have to follow our tariff with the necessary things.
Was he told, no, he could never have any hookups again? No, he was not.
Q. I see.
So he must have misunderstood you when you told him that he'd have to do these other things?
A. Apparently he did.
Q. Okay. Apparently he did.
You knew, of course, in 2002 that Quail Valley had unbuilt lots?
A. I knew there was a section marked Future Development.
Q. And you knew, if you've ever been out there, that there is vacant lots around along the area here that don't have homes next to them. Correct?
A. There were vacant areas, yes.

Q. All right. Now, you indicated if you have a meeting with someone, you have people sit in?

A. Yes, sir.

Q. But you don't have people sit in on your phone calls?

A. Sometimes I do, yes, sir.

Q. Really?

A. Yes.

Q. Did you have anyone sit in on any of your phone calls you had with Mr. Storey?

A. Yes, I have. I've told him that Aaron was present on the phone, yes.

Q. And I guess you'd have been on speaker phone then?

A. Yes, sir.

Q. Aaron wouldn't have been present in 2002 when Ed talked to you because he would have been out running a plant. Right?

A. Perhaps; perhaps not. He has a lot of requirements to be in the office, the lab and filling out the DMRs and paperwork.

Q. In 2002 he did?

A. He still was doing the paperwork. He took that responsibility on early in 2002.

Q. He did. Huh.

It seems to me I saw monitoring reports that were signed by Greg Ratcliff.

A. Any of my operators can sign those --

Q. Oh, I see.

A. -- if they ran the tests.

Q. I see.

A. Greg was an a licensed operator certified to do so.

Q. Now, you kept referring in your direct examination to discussions you had with Edward, where you thought all he wanted was ten lots.

When did you have those discussions with him?

A. When you and Mr. Haug came to the office and met with Aaron and I, you discussed with us hooking on possibly up to ten homes one at a time and assessing the parameters of the treatment plant, and if we said stop, you-all said that we would stop.

Q. Really?

A. Yes.

Q. Did you document that in a letter to anybody?

A. There are letters and correspondence back between you and Mr. Ellinger and myself speaking of ten lots.

Q. And let's talk about that.

We began meeting with you -- well, obviously Ed began meeting with you and discussing expansion of the plant as early as, I guess, 2004. Right?

A. Him and Mr. Krogstad came in.

Q. And then Mr. Haug got involved in --

A. In 2005.

Q. -- late 2005?

You received a letter from Mr. Haug in September of 2006. And we had had further discussions with you leading up to that. Is that a fair statement?

A. Discussions, yes.

Q. All right. So you received that letter from Mr. Haug. Correct?

Let's look at that.

A. The September 14th one?

Q. Yes.

A. Okay.

Q. Now, first of all, if you go back, there is a table at the back. And he has a category there, Maximum Capacity. Correct?

A. Which table are you on?

Q. Table 1.

A. Okay.
Q. You see it says Maximum Capacity?
A. Yes, I see that.
Q. And it has number of homes connected, 120?
A. I do see this.
Q. And that's part of this letter that you received. Correct?
A. Correct.
Q. All right. Then in paragraph 6 on page 2 of the letter -- and correct me if I read this wrong. Okay? Have you found it?
A. Paragraph 6.
Q. Paragraph 6, or category 6.
"As per previous discussions, we believe it is reasonable and appropriate to add . . ." --
A. Wait a minute. Where -- I don't show it starts out like that.
Q. No. I'm reading it down at the bottom.
A. Let me catch up with you. It's the sentence that starts out.
Q. As per, toward the bottom.
A. As per previous. Okay. I'm with you.
Q. Now, read along with me and tell me if I read this correctly,

"As per previous discussions, we believe it is reasonable and appropriate to add an additional 10 homes to the system over the next couple of years. Monitoring of loadings and treatment plant effluent results will be performed to determine impacts of new hookups and to see if additional capacity is available beyond 90 homes."

Did I read that correctly?

A. You did read this correctly.

Q. All right. Now, subsequent to that, two weeks later, we hadn't heard anything from you, and I sent you what has been marked Exhibit 41. Is that correct?

A. It is a letter dated to me from you September 27th.

Q. And in there I'm just kind of pushing the issue a little bit, for lack of a better term, trying to get an answer from you?

A. Okay.

Q. Is that right?

A. Well, you're saying that -- on behalf of Mr. Storey, wants to hook up to 90 homes to the existing treatment plant, and you said, scientifically there is no reason not to approve the request to hook up 90 homes to the system.

Q. Right. Right. Just as Mr. Haug's letter said, let's hook up 90 and let's see where it goes from there?

A. Well, you stated here that Mr. Haug says available beyond 90. Your letter only says 90 homes.

Q. And then what was your response to that, Ms. Hale, Ms. Hale-rush, Exhibit 42?

Now, you've sat here and testified that ten, ten, ten was the number. Right?

Then you write a letter to me, and correct me if I read this wrong.

"There needs to be further explanation and documentation to support your claims on our wastewater treatment facility. We need clarification as to what the number 90 represents. Do you mean 90 additional homes or 90 total homes to be hooked to the current facility, which includes the current 80 customers hooked to the facility already? This item needs clarification to be made on it. Are you purposing" -- proposing -- "hooking "10" additional homes to the current facility, this is not clear."

Did you write that?

A. Yes, I did.

Q. How could you possibly imagine that we're asking for 90 additional homes when Mr. Haug's report

says the maximum is 120? How could you possibly think that?

A. Because you're saying that you would hook into increments of ten. And as we've discussed several times throughout here, the number of lots seems to be a moving target.

Q. Then I responded to you --

JUDGE JONES: Can you just read it from there?

MR. LUDWIG: Okay.

But I want to make sure she doesn't accuse me of reading it wrong.

JUDGE JONES: Well --

MR. LUDWIG: All right.

BY MR. LUDWIG:

Q. I responded to you October 10th and expressed some surprise at your letter, and said in that letter, "While we feel the plant easily could handle 120 homes, we are proposing 10 additional homes at this time." "If an additional ten homes are added and the plant continues to be well under capacity, we may at a later date come back and ask for additional hookups."

Do you remember receiving that from me?

A. I remember receiving a letter from you.

Q. All right.
A. Does it state that? I'm not sure. It's not in front of me.
JUDGE JONES: I can't even see it and I'm certain it states it. There is not enough to sit there and lie about that. It's on a piece of paper.
BY MR. LUDWIG:
Q. Then you wrote back and responded that you wanted to know which lots were involved. Correct?
A. Correct.
Q. Although you've testified here today you always thought it was the ten lots that already had mains to them, didn't you?
A. They were not defined which ten.
Q. Okay.
A. I had never been given lot numbers or anything.
Q. Then I responded and with a map and set forth basically the lots that have streets and everything to them?
A. After we sent you a letter asking you to identify the lots, which is the letter that you just laid down, which further asks you to identify those lots, you then did return.
Q. And that was the ten that we wanted right

then.

Then Mr. Ellinger sent me a letter three weeks later, and basically he proposes, Company agrees to allow developer to connect one lot upon completion of construction on such lot. After such connection is performed, company will perform an assessment to determine whether the Quail Valley wastewater treatment plant can absorb another connection. And it goes on from there.

You were proposing at that point that Ed could either sell a lot or build on that lot one at a time, weren't you?

A. Mr. Storey first verbally proposed that to me.

Q. Yes or no, is that what you were proposing?

A. Yes.

Q. All right. Then Mr. Ellinger sent me a letter basically taking the position you've taken here about questioning the data. Do you remember that?

A. What is the letter dated?

Q. December 21st of 2006.

A. This is Mr. Ellinger's letter?

Q. Yes. And you've got a copy of it.

A. What exhibit is it?

Q. Well, it's been marked 47, but it's not in the record yet.

A. Oh.

Q. Okay. Anyway, eventually Mr. Ellinger sent us and proposed that you would agree to ten new connections and that if we signed an agreement, that only ten more lots would be connected to the current wastewater treatment facility. Correct?

A. Correct.

Q. So you never agreed to a request for ten lots without some strings attached, did you?

A. We are responsible for the effluent of that treatment plant.

Q. Did you ever agree to giving us the ten lots that Mr. Haug asked for in that letter without strings attached?

A. I wouldn't call them strings, but I'd call them safety parameters, correct.

Q. You put additional terms on our request when you responded, didn't you?

A. For the safety of our company, yes.

MR. LUDWIG: Thank you.

Your Honor, I would ask that Exhibits 41 through 50 be admitted.

JUDGE JONES: Have you seen those,

Mr. Ellinger?

MR. ELLINGER: I haven't, but I've seen them at some time in the past.

JUDGE JONES: You don't have any objection to them is what I'm asking?

MR. ELLINGER: Can I have a moment to look at them real quick, Judge?

MR. LUDWIG: May I move on?

JUDGE JONES: No. Let's finish this business first.

MR. ELLINGER: I don't have any objections, Your Honor.

JUDGE JONES: What were the exhibits?

MR. LUDWIG: 41 through 50.

JUDGE JONES: 41 through 50 are admitted into the record.

(PETITIONERS' EXHIBIT NOS. 41 THROUGH 50 WERE RECEIVED INTO EVIDENCE.)

MR. LUDWIG: Thank you.

BY MR. LUDWIG:

Q. And just to be clear, you understood that Mr. Haug's letter of September 14th, 2006 was a request for approval of ten additional lots at that time, didn't you?

A. He says that they are requesting approval

to hook up a total of 90, to 10 additional, yes.

Q. All right. Now, Mr. Haug had data and analysis in that letter, and you said your engineer wasn't comfortable using census data, the flow data, and that you were uncomfortable with the I & I analysis and you had an issue with the septic tanks. Correct?

A. I said our regional engineer, yes.

Q. Now, you had no data that that census was inaccurate, did you?

A. No data that it was inaccurate, no.

Q. Okay. You preferred to use the 3.7 people per household, the design criteria, rather than -- which is used for building a plant, rather than for analyzing capacity. Correct?

A. Our regional engineer would have preferred we use the 3.7 design guideline because it does build in I & I and parameters over the lifetime of a 15- to 20-year plant.

Q. You had no data from anywhere to contradict the flow data in Mr. Haug's letter, did you?

A. Not to contradict instantaneous data.

Q. You had no data to contradict that information, did you?

A. No, not the instantaneous data he provided.

Q. And that data was data that you provided to Mr. Haug, wasn't it?

A. Based on our permit, how we take an instantaneous grab, that is that data.

Q. Based on what DNR requires you to do?

A. Yes.

Q. Yes. Data that is good enough for DNR apparently?

A. Only for a monitoring requirement. It is listed as a monitoring requirement only in our permit.

Q. Well, that's because flow really isn't permitted, is it? I mean, there isn't any permit limitation that you have to report to DNR?

A. We do monitor that flow because that permit is granted for a 22,000 gallons per day treatment plant. If it were to exceed that, yes, they would note that.

Q. And based on numbers you provided to DNR, they believed the actual flow of the plant to be 14,400 gallons per day?

A. Correct.

Q. Okay. Now, you said you'd be more comfortable if you-all pumped the septics. Didn't

Mr. Storey offer to let Aqua pump the septic tanks out there after that bylaw was passed?

A. After I stated to you a minute ago, I would not have the manpower or the equipment to do so. I have operators that operate 15 treatment plants. Each they do all parameters of operations.

In order to become septic haulers, we would have to approve that and add equipment and manpower. We do not have the manpower to do it.

Q. Did Mr. Storey offer to let Aqua Missouri pump the tanks?

A. I believe he approached us for a bid. I was not approached directly by him.

Q. All right. Now, the tests of the influent taken after the pumping of the tanks showed they went from about an average of 80 or 81, I think, to 68 about a month after they were pumped. Correct?

A. I believe that is what one of the exhibits shows.

Q. I think as Marc pointed out a while ago, I think with Mr. Clarkson, that the numbers returned to about that 80 stage after a year went by. Do you remember that?

A. Yes.

Q. I guess we can take that two ways.

Either the pumping didn't do much good or the septic tank are doing a really good job without being pumped. Which way do you want to take it?

A. Septic tanks generally, as a rule of them by DNR will tell you, they need to be pumped every three to five years.

So one year later probably doesn't reflect the amount of solids that they are capable of putting into a system.

Q. How long had it been since the majority of those tanks had been pumped at Quail Valley prior to 2006?

A. Excuse me?

Q. How long had it been since the tanks at Quail Valley had ever been pumped?

A. Since we do not have control over that, unless the homeowner had provided us information or somebody had provided us information that they pump the tank, we would not know that.

Q. So in other words, some of those tanks may have never been pumped?

A. I'd say it is possible.

Q. Okay. And yet you had no loading problem at the plant, did you?

A. We were receiving solids on a bar screen

at the treatment plant, yes.

Q. But did you ever have problems with your effluent levels?

A. No, because we were able to remove those or operate.

Q. As far as infiltration and inflow, you have no data to show it's a problem at Quail Valley, do you?

A. We have no data. But, again, I would have to say that in experience of operating treatment plants, it would be a factor just to know that a treatment facility collection system will obtain some I & I over the years.

Q. How much I & I are they getting?

A. We would have to do a survey of that. But it -- it is a known fact they do receive some I & I over a period of time.

Q. It might be 2 percent. It might be 20 percent. You don't have a clue, do you?

A. No, I don't have a clue.

Q. All right. Thank you.

Now, the average on the BOD and TSS is about 25 on the effluent, is about 25 percent of what the permit allows you. Is that a fair statement?

A. Based on the data that was provided.

Q. The data that you provide DNR?
A. Based on that data.
Q. Okay. Greg says the BOD loading on the plant is about 9.9 pounds a day. You don't have any data to contradict that, do you?
A. I don't have data to contradict it at this time, no.
Q. And that plant, according to Mr. Mueller's letter that you like to refer to, was designed in anticipation of 46 to 50 pounds a day of BOD, wasn't it?
A. And he did give an allowance for septic tanks in there.
Q. Yeah, he did. That was after he allowed for the septic tanks.
So you're running at about 20 percent of what Mr. Mueller thought it would run in that letter back in the 1980s. Correct?
A. Based on the current data.
Q. There are no studies to show you are approaching the 22,000 gallon a day average on flow, are there?
A. I believe some of the peak flows did indicate that it was receiving -- you know, during some time of peak periods or rain conditions that it

is receiving, yes, a high amount of flow.

Q. Sure. But that's a peak time. That's not an average daily flow, which is what the plant capacity is designed for. Correct?

A. Right. But I believe it has been stated by the professional that we do not have an adequate flow study that does depict peak times at this plant. This information does not depict peak times at that facility.

Q. And you elected not to do that study. Correct?

A. When Mr. Storey first came to me, I elected to work with Mr. Krogstad and did so.

Q. Well, sure you did.

A. When he came to me with Mr. Haug, only wanted ten homes, we elected to work with you and have done so.

Q. You agreed to work with Mr. Krogstad because if the plant is expanded, Mr. Storey spends all his money and gives it to Aqua Missouri. Right?

A. It is a contributed process according to our tariff.

Q. And he would be reimbursed a portion of that over the next ten years. Is that right?

A. I would assume, as he is a developer, he

would do that through his lot sales and his tax breaks.

Q. And you would do that based on your rates with the PSC as how you'd get that money back?

A. Contributed property is taken off of our rate base. It is not counted as part of our rate base. Contributed property and depreciation less our plant would be our rate base.

Q. So you were willing to work with Mr. Krogstad because basically Mr. Storey was going to have to spend the money to expand the plant and give it to you?

A. That is according to a tariff.

Q. I understand that.

But the other way was is Mr. Storey doesn't have to spend all that money and he hooks up additional houses to the existing plant. You don't get much out of that other than the revenue from that plant. Right?

A. You're talking about the ten?

Q. I'm talking about however many are attached, ma'am.

A. Restate your question.

Q. Why wouldn't you attach -- pick a number -- 25 homes to this plant if the only study

available says it can handle up to 40 more? Why wouldn't you?

A. Why wouldn't you? I'm running this plant at a loss now. It's not like the revenue is, you know --

Q. Maybe that's why you're operating it at a loss is you don't look at the capacity of these plants and allow hookups so you've got more people paying your fees.

A. I am looking at the capacity of the plant. That's why we are concerned about the homes you are wanting to connect to it.

Q. But you don't have any data to contradict what Mr. Haug says, do you?

A. We had a professional testify, and he did contradict Mr. Haug, yes.

Q. One that you hired after this was filed in the PSC about four months later.

A. That's because we had worked with you up to that point, thinking there was no need for --

JUDGE JONES: You-all can fight at happy hour. Don't fight on the record.

BY MR. LUDWIG:

Q. And, in fact, you hired Mr. Clarkson after the prehearing conference in June. Is that

right?

A. That correct.

Q. You didn't hire anyone to evaluate Mr. Haug's data in the request for the ten homes at that time in his letter, between September of 2006 and July of 2007, did you?

A. We thought we were working toward a settlement agreement with you. There was no need.

Q. You were asked about, did Mr. Storey and you ever go to DNR on a joint request. Do you remember that question a while ago?

A. Yes, I do.

Q. Well, you never agreed with Mr. Storey or his representatives on what the capacity of the plant was, did you?

A. We were never asked to go to that meeting.

Q. No, no, no, no. This was long after that meeting. There was another.

They proposed a meeting, that Aqua and Mr. Storey would come to DNR with a joint plan -- on a joint agreement on what the capacity of the plant was. You read it a while ago from that letter.

A. Right.

Q. There was never an agreement, was there?

A. I read it from this letter. I was never approached and asked to do that by Mr. Storey.

Q. There wouldn't be any point because you never agreed with us on what the capacity of this plant is, have you?

A. That would be assumption because I was not asked.

Q. Oh. Well, do you agree with Mr. Haug's assessment that this plant has capacity for a total of 120 homes?

A. No, I do not.

Q. Well, there you go.

Did you ever tell Mr. Storey if he filled out a formal application for ten lots, you would grant it?

A. Mr. Storey has never been denied an application. That's what we were working with you-all toward an agreement and sign that agreement, that he would be allowed those ten lots.

Q. And no more without expanding the plant?

A. Correct.

Q. Back to my question. Did you ever tell Ed if he filled out one of those little application forms for ten additional lots or home hookups, you would grant it? Yes or no?

A. For the ten that we were working toward, yes, he would have been allowed.

Q. Did you ever tell him that --

A. Did he ever --

Q. -- bring us an application; we'll grant you those ten additional hookups, Mr. Storey --

A. Mr. Storey is aware of our application process. We have applications in the file that he has signed. All he had to do was come in and fill out the application process. He did not do so.

Q. Really?

A. He did not fill out the application on his ten.

Q. If he would have just filled out the application process, you would have granted it. Is that what you're telling us?

A. For one single family home, because as noted, there are only 77 homes, 78 homes out there.

Q. How many would you have granted?

A. We would have assessed the plant as we were working toward working with you.

Q. Either build one a year and we'll assess, Mr. Storey, who is 76 years old. Is that a very smart thing for somebody that age to do?

A. That is the first thing you-all proposed

to us.

Q. Really?

A. You verbally came into our office and said, since Mr. Storey owns these lots, we will add them one at a time. If Aqua Missouri says eight is enough, then you-all would stop.

And you assured us that you had the control of that because Mr. Storey would be the builder and owned the lots.

Q. Really?

A. Yes.

Q. I just have a different recollection I guess than you do.

Did you document that in a letter anywhere?

A. I did not document it in a letter.

Q. I understand.

A. But Aaron was present in the meeting.

Q. Now, Mr. Storey doesn't need a new developer agreement to be signed for the ten lots that already have sewer main to them, does he?

A. We were not requiring one.

Q. Well, there will be no need for one; he's not developing anything there?

A. If we agree upon the ten, he will have to

fill out an application for each lot.

Q. But for anything else there that doesn't already have main to it, we never got to the point of a developer agreement, did we?

A. Not with you-all. You guys didn't discuss that. You only discussed the ten.

Q. It is your responsibility to monitor the plant and report to DNR. Is that correct?

A. Yes.

Q. And it's your responsibility to keep the plant and the collection system from the mains into the plant maintained and operating properly. Correct?

A. Yes.

Q. And if the mains are not jetted and the solids build up because they're blocking the main, that's your responsibility. Correct?

A. Not necessarily.

Q. Really?

By the way, I noticed when Mr. Ellinger asked you that question about how often do you jet the lines, I think I wrote your response down.

Well, we like to jet the lines. You never answered him how often you jet them, did you?

A. I don't recall what I said, no. We like to yet them once a year.

Q. But did you bring any records with you here to prove that you do that?

A. No. We were not requested to bring the jet truck records.

Q. Well, I would certainly think you might want to back up what you're telling this Commission here, that you actually do what you say you're doing.

You don't have any records to back that up, do you?

A. We have records at the office.

Q. Did you agree at the prehearing conference in this case that we could have 10 lots now and we would continue through this proceeding over the other 22 lots?

A. It was mentioned that we have an agreement to settle with 10 on you but that you are now wanting 22.

Mr. Dale Johansen said, why don't you just do the 10 now and then let them hash the 22 out through PSC? I did not agree to anything. What I stated was that my attorney Marc Ellinger was not present and that I would not answer any questions like that.

Q. I am going to direct you to the transcript that was prepared when Judge Jones was

there at this hearing, and you might recall, we were discussing how quickly we had to get this to a hearing because Mr. Storey is not getting any younger and he wanted to start selling some lots.

And we're having a discussion here, and first it started -- and I want to direct you to page 12, and I'm going to start where I'm seeing it.

Now, read along with me. It says, Mr. Ludwig. As far as time being of the essence, they have offered us ten, with only ten and no more ever, which would be the dumbest business decision Ed has ever made.

If they say you can hook up ten for the time being while we fight this out, that takes away a lot of the immediacy or time-is-of-the-essence idea, and we can get this on a reasonable schedule.

Mr. Franson then says, some of these things maybe the parties should talk about.

Judge Jones says, I understand that.

And you said, it seems in your pleadings that you could do ten more. Right?

And it says Ms. Hale-rush. They come to us, which we can prove, originally asking for only up to ten homes. We did agree. And they do have the main in front of them, but the additional homes would

also require main extensions, more than they're asking for.

We also plan to show in the exhibits and are prepared to say that he is a developer, and under the tariff he only developed the first phase. And we do have his original preliminary documentation for that that was originally submitted to DNR.

So we do have a lot of exhibits and demonstration to, you know, prove this.

First of all, there are no mains for the homes he's wanting, and under the tariff the mains have to be paid for by the developer.

Judge Jones --

MR. ELLINGER: Judge, I'm going to object at this point. This is all just conversations that were going on in the prehearing conference. It's being submitted as if it's testimony of some type or another.

MR. LUDWIG: Well, it's on the record.

MR. ELLINGER: Well, it was not testimony. There was no oaths taken. There was no discussion in here that she was talking on behalf of the company at the point those discussions were at. There is counsel present.

JUDGE JONES: I'm going to sustain the

objection, Mr. Ludwig. Ask her a question. But come up here and ask the question.

BY MR. LUDWIG:

Q. During this conference did Judge Jones say, I'm asking about the ten homes. Whether they originally asked for it or not I'm not concerned with. Can you do an additional ten homes? That is something I want you-all to iron out today. If you can do that, do that, to no cost to anyone. If you can do ten more homes, then do it.

Ms. Hale-Rush, we agreed up to ten --

MR. ELLINGER: Judge, I'm going to go back --

BY MR. LUDWIG:

Q. -- then do that.

MR. ELLINGER: -- and raise my objection. He continues to just read lines out of a transcript of a prehearing conference where there was no oaths administered, and there is counsel present. I think this is improper for questioning.

MR. LUDWIG: Judge --

JUDGE JONES: The answer to your question of whether those things have been said is yes. They were said. So I don't know what you mean to show by that.

MR. LUDWIG: Well, Judge, I mean, obviously there is a lot of different recollection and --

JUDGE JONES: If you're making an argument, make it in your brief. Don't argue with her. Just ask her a question and move on.

If you want to make a point from the discussion in the prehearing conference, make that in your post hearing brief.

BY MR. LUDWIG:

Q. When Judge Jones asked you if you could do ten more homes, then do it, did you say we agreed up to ten, and then Judge Jones says, then do that and let continue on with what's --

MR. ELLINGER: I'm going to object --

JUDGE JONES: Mr. Ludwig, I'm going to cut your cross-examination. You're done now. You're done.

Redirect.

MR. ELLINGER: Thank you, Judge. I'll be very brief.

REDIRECT EXAMINATION

BY MR. ELLINGER:

Q. You've had some discussion about Mr. Haug's letter of September of 2006. Do you recall

that?

A. September 14th?

Q. Yes.

A. Okay.

Q. Is that an application for service under the tariff?

A. No, it is not.

Q. If additional connections are made at the Quail Valley wastewater treatment plant, who ends up having the risk if there is a permit violation?

A. Aqua Missouri.

Q. And if the additional homes are connected, there is some revenue benefit, but if additional plant is contributed, is there any revenue benefit from additional plant being contributed?

A. No, there is not.

Q. Mr. Storey and his attorney sent a number of letters after that September 14th letter, did they not?

A. Yes, they did.

Q. I think we heard basically every week or two there was another set of letters exchanged, whether it was going from Mr. Ludwig to you or from you to Mr. Ludwig or me or somebody. Do you recall that?

A. Yes, I do.
Q. And you've been involved in the sewer business for a number of years dealing with extension agreements and developers, haven't you?
A. Correct.
Q. Is that what you would consider very fast turnaround on responses to proposals?
A. Yes.
Q. This was a fast-track project. Right?
A. We were moving on and answering their questions and asking questions.
Q. And then a complaint was filed?
A. And then a complaint was filed. When we submitted an agreement, we did not hear back. The next thing we knew, a complaint was filed.
Q. You talked about solid being in the screens out at Quail Valley. What would be the effect if that continued, of more solids built up in the screens?
A. If there were more solids entering the plant, it would affect the limits of the plant.
Q. In what manner?
A. In an organic manner, organic loading, BOD, TSS.
Q. What does that ultimately mean to the

plant?

A. Well, the more solids come in there, there is more sludge to treat, to break down to go through the treatment plant.

MR. ELLINGER: No further questions, Judge.

JUDGE JONES: Okay. You may step down.

MR. ELLINGER: No further witnesses on behalf of the Respondent.

JUDGE JONES: With that then -- we won't be doing closing arguments. So we are off the record.

WHEREUPON, the hearing was concluded.

I N D E X

WITNESSES

For the Respondent:

EXHIBIT INSTRUCTIONS:

Retained by the Public Service Commission.

COMPLAINANTS' EXHIBITS INDEX

COMPLAINANTS' EXHIBITS INDEX (CONT'D)

	MARKED	REC'D
Petitioners' Exhibit No. 49 Letter dated February 15, 2007 to Mark A. Ludwig from Marc H. Ellinger	545:6	560:17
Petitioners' Exhibit No. 50 Letter dated February 20, 2007 to Marc Ellinger from Mark A. Ludwig	545:6	560:17

RESPONDENT'S EXHIBITS INDEX

	MARKED	REC'D
AMO Exhibit No. 20 First Amended Complaint		536:23
AMO Exhibit No. 21 Letter dated September 1, 2005 to Edward Storey from John Hoke, with handwriting on it; Water Quality Review Sheet (WQRS) Request Form		536:23
AMO Exhibit No. 22 Letter dated March 7, 2005 to Tina Hale-Russ from Wilbur D. Krogstad, P.E.		536:23
AMO Exhibit No. 23 Letter dated November 10, 2004 to Ed Storey from Don Friede, enclosed sketches		536:23
AMO Exhibit No. 24 Construction Permit to Capital Utilities, Inc.		536:23
AMO Exhibit No. 25 Letter dated May 27, 1992 To Whom It May Concern from E. A. Mueller, P.E.		536:23
AMO Exhibit No. 26 Missouri Revised Statutes, Chapter 386, Public Service Commission, Section 386.390		536:23
AMO Exhibit No. 27 4 CSR 240-2 - Department of Economic		

RESPONDENT'S EXHIBITS INDEX (CONT'D)

	MARKED	REC'D
AMO Exhibit No. 28 Sewer Extension Agreement - Developer Extension Number: S92-003		536:23
AMO Exhibit No. 29 (Draft) Wastewater Facilities Report Wastewater Treatment Plant Expansion		536:23
AMO Exhibit No. 30 Warranty Deed by Corporation		536:23
AMO Exhibit No. 31 Letter dated May 5, 2006 to Edward Storey from Keith B. Forck, P.E.		536:23
AMO Exhibit No. 32 Letter dated September 1, 2004 to Edward Storey from Brenda Bethel, P.E.		536:23
AMO Exhibit No. 33 10 CSR 20-8 Natural Resources		536:23
AMO Exhibit No. 34 Curriculum Vitae of Randy Clarkson, P.E.	347:2	536.23
AMO Exhibit No. 35 Report on Wastewater Facility Capacity Evaluation, Quail Valley Lake Subdivision, Jefferson City, Missouri	347:2	536.23

CERTIFICATE OF REPORTER

I, Patricia A. Stewart, RMR, RPR, CCR, a Certified Court Reporter in the State of Missouri, do hereby certify that the testimony that appears in the foregoing transcript was taken by me to the best of my ability and thereafter reduced to typewriting by me; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this hearing was taken, and further that I am not a relative or employee of any attorney or counsel employed by the parties thereto, nor financially or otherwise interested in the outcome of the action.

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Patricia A. Stewart

CCR No. 401