STATE OF MISSOURI

PUBLIC SERVICE COMMISSION

TRANSCRIPT OF PROCEEDINGS

Hearing

December 5, 2003
Jefferson City, Missouri
Volume 1

In the Matter of the Verified Application of Laclede Gas Company for an Order Establishing Replacement Requirements for the Final Phase of its Unprotected Steel Main Replacement Program Previously Approved Pursuant to Rule 4 CSR 240-40.030(15)(E).	)))))))	Case No. GO-2003-0506

VICKY RUTH, Presiding,
SENIOR REGULATORY LAW JUDGE.

STEVE GAW, Chair
ROBERT M. CLAYTON, III,
COMMISSIONERS.

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P R O C E E D I N G S

JUDGE RUTH: Good morning. My name is Vicky Ruth and I'm the Regulatory Law Judge assigned to these cases. Today's date is Friday, December 5th, and we are here for a hearing in Case No. GO-2003-0506, in the matter of the verified application of Laclede Gas Company for an Order establishing replacement requirements for the final phase of its unprotected steel main replacement program previously approved pursuant to Rule 4 CSR 240-40.030, Section (15)(E), and in Case No. GO-99-155, in the matter of the adequacy of Laclede Gas Company's service line replacement program and leak survey procedures.

Although the Commission is conducting these matters as a joint hearing, they are not being consolidated for any other purpose.

I'd like to begin with entries of appearance. And, Laclede, would you make yours first, please, and use the microphone.

MR. PENDERGAST: Thank you, your Honor. Michael Pendergast and Rick Zucker appearing on behalf of Laclede Gas Company, 720 Olive Street, St. Louis, Missouri 63101.

JUDGE RUTH: Thank you. And Staff?

MR. BERLIN: Yes, your Honor. Appearing for Staff, Robert S. Berlin, Post Office Box 360, Jefferson

City, Missouri 65102, on Case GO-2003-0506.

MS. SHEMWELL: Your Honor, Lera Shemwell, appearing on behalf of the Staff, Post Office Box 360, Jefferson City, Missouri 65102, and more specifically and particularly in Case GO-99-155. Thank you.

JUDGE RUTH: I will note that it appears that the microphone for Staff's table is not working. When we take a break, you might remind me and we'll see if we can get IS to help us with that. I don't know if it can possibly be unplugged. It doesn't look like it. We will see if IS can help us on a break.

And Public Counsel?

MR. MICHEEL: Douglas E. Micheel, appearing on behalf of the Office of Public Counsel, P.O. Box 2230, Jefferson City, Missouri 65102-2230.

JUDGE RUTH: And I believe that is all of the actual parties to the case. Have I missed anyone?

(No response.)

JUDGE RUTH: Okay. We briefly discussed the procedure for today. As I mentioned, the Commission scheduled this as an on-the-record presentation -- I'm sorry -- as a question-and-answer format. And the Commission also invited the Gas Workers Union Local 5-6 to offer a witness if it wanted. And it is my understanding that Joe Schulte from the union is here.

The Commission intends to start by having a few Commission questions for Mr. Schulte. The parties will then be allowed to cross-examine if they wish, and then the Commission will move on to questions from the rest of the parties.

The Commissioners will direct the questions to counsel, and if it's a legal issue, counsel may answer. If it's an answer which requires evidentiary-type expertise, you may tell me which witness that you want to have answer that, and we'll call them up and actually have them sworn in.

Are there any questions regarding that part of the procedure?

MR. PENDERGAST: Your Honor, did you desire any kind of opening statement?

JUDGE RUTH: I do not intend to do opening statements at this point. However, we will have closing arguments or closing statements, a summary if you wish, and the previous -- the November 20th Order did provide that there would be Briefs on an expedited basis.

The transcript is due December 8th, next Monday, and then Briefs were scheduled to be due December 15th. However, at the end of the hearing we will discuss whether Briefs are necessary. And if the parties believe that Briefs are not necessary, I will waive that

requirement from the previous Order.

Mr. Schulte, I'd like you to go ahead and come forward, please, if you would, and I'm going to swear you in. I will ask a few preliminary questions, and then we may have to take another short break. Would you please go ahead and sit in the witness chair. Mr. Schulte, would you please raise your right hand.

(Witness sworn.)

JUDGE RUTH: Thank you very much.

JOSEPH SCHULTE testified as follows:

QUESTIONS BY JUDGE RUTH:

Q. Okay. Mr. Schulte, would you please state and spell your name for the record.

A. My name is Joseph Schulte. It's S-c-h-u-l-t-e.

Q. Okay. And please state your affiliation with Laclede Gas Company.

A. I'm an employee on leave of absence, and I am working directly for the union at this point in time, which is Pace Local 5-6.

Q. And what is your position with the union?

A. I'm a business representative.

Q. Okay. And would you please state the address of your business?

A. Business is 7750 Olive Street, St. Louis, Missouri 63130.

Q. And could you please briefly describe your professional qualifications?

A. Well, I started out as an employee for Laclede Gas 35 years ago, and I worked in the street department for roughly seven to eight years. Worked in the service department for roughly around 15 years.

JUDGE RUTH: Okay. Thank you. And I apologize, especially to Commissioner Clayton, but we are going to need to take a very short break at this point. You may stay seated or you may get up if you stick in the room, please.

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

JUDGE RUTH: When we left, Mr. Schulte, I had just sworn you in. So let me remind you that your testimony today is under oath. And, Commissioner Gaw, would you like to start with any questions for this gentleman?

CHAIRMAN GAW: Thank you, Judge.

MS. SHEMWELL: I apologize, Mr. Chairman. I think before we got started, I need to point out to the Commission that the rules specifically state under 4 CSR 240-2.040, practice before the Commission, that a natural person may represent only themselves in front of the Commission. Mr. Schulte, I believe, has been brought to represent the union, and while the Commission may raise its own rules -- I mean, may waive its own rules, I suggest that

that's one that perhaps needs to be addressed by the Commission.

JUDGE RUTH: In this case, I believe Commissioner Gaw is going to ask the questions specifically of this gentleman as to his experience, and that was why I believe I asked one of the questions as to what his experience would be.

MS. SHEMWELL: You're saying that he's representing only himself?

JUDGE RUTH: I'm sorry?

MS. SHEMWELL: So your point is that he's representing only himself?

JUDGE RUTH: Yes. In order to -- Commissioner Gaw, I believe, thought that the union might be able to provide someone that would be qualified to speak today, and that is why the request was directed to the union as a non-party, but that -- an entity that might be able to offer someone with the experience that Commissioner Gaw was seeking.

MS. SHEMWELL: To represent themselves as opposed to representing the union?

JUDGE RUTH: Yes, due to his experience with a -- was it 15 years, 12 years? I've forgotten what you said.

THE WITNESS: Roughly around 7 to 8 years in

the street department, and 15 years in the service department.

MS. SHEMWELL: Thank you. I'm sorry for the interruption.

JUDGE RUTH: That's fine. Thank you.

CHAIRMAN GAW: May I now proceed, Judge?

JUDGE RUTH: Please do.

COMMISSIONER GAW: I believe Mr. Schulte is here as a witness, not as a party.

JUDGE RUTH: Correct, a witness called by the Commission.

QUESTIONS BY CHAIRMAN GAW:

Q. Mr. Schulte, I apologize that some of this may be repetitive, because I didn't hear all of what was done in the initial questioning. State your name again, please.

A. Name is Joseph Schulte, S-c-h-u-l-t-e.

Q. Thank you, Mr. Schulte. Who do you work for?

A. Right now -- I was an employee for Laclede Gas. I'm on leave of absence, and I've been working for the union for roughly 10 years. That's Pace Local 5-6.

Q. How long have you been on leave of absence from Laclede?

A. Roughly around 10 years.

Q. All right. And how long did you work for them prior to that?

A. I have 35 years as an employee with the company. So probably 25 years.

Q. And are you familiar with the operations of Laclede?

A. Yes, I am.

Q. All right. And tell me generally what your familiarity is with Laclede's operations.

A. As I said, I worked in the street department for 8 years, so I'm familiar with just about every aspect of that. As far as the service department, I worked there for roughly 15 years, and I'm familiar with every aspect of the service work, and that would include the piping and the service going into customers' houses.

Q. All right. Your current capacity in working for the union, how do you -- do you have relations with Laclede in that capacity?

A. Yes. We have numerous meetings with from foreman all the way up to president and vice president of the company, industrial relations.

Q. All right. Do you also work with the -- with workers that are employed by Laclede?

A. Yes, we represent them.

Q. All right. Mr. Schulte, are you familiar with the request on the cases that are before us in regard to gas line replacement programs?

A. Yes, I am.

Q. All right. And can you tell me, have you had a chance to look at the proposals in regard to the changes or the -- in one case and the maintenance of a current program in the two cases that the Commission has to decide?

A. I haven't looked at them thoroughly, no.

Q. All right. Let me ask you just some general questions, and then if you have some input that would be helpful to the Commission, we'd like to hear it. If you don't, that's fine, too.

A. Okay.

Q. All right. Are you aware that Laclede has requested that the Commission issue an Order that establishes an annual replacement requirement of 10,000 feet per year instead of the current 20,000 feet per year for all unprotected steel mains that are identified in certain categories?

A. No, I'm not aware that they were changing it from 20 to 10,000.

Q. Are you familiar with the fact that they have been over the last few years doing it at that rate of 20,000 feet per year?

A. Yeah, I was familiar with that.

Q. All right. Tell me about that, what you know about that.

A. Well, it's bare steel service and you -- or service and piping. And in my opinion it's not in the best interests of the public or the consumer to be changing it. You have a product in -- you have a piping system in the ground that is subject to deterioration by the elements of what's in the ground, the electrolysis or the acidity in the ground, and when you go changing something like a position where you're not making them change as much or remove as much pipe from the ground, you've always got the potential there, especially in the winter months when the ground freezes, of gas getting into a house and causing explosions.

Q. All right. Were you aware of the agreement that established the 20,000-feet-per-year replacement?

A. Vaguely. I was not involved in that.

Q. Did you believe that was -- that that replacement figure was an appropriate figure at the time, based upon what you knew about it?

A. Yeah, based on what I knew about it and what was in the ground. I knew they had been using and replacing a lot of it, especially in the city, that's probably where the bulk of it is located, you know, with plastic piping.

Q. And in particular, in regard to the unprotected steel mains, tell me specifically what you know in regard to what you believe to be a safety issue in regard to the steel mains.

A. Well, the safety issue is just what I stated. You can have a situation where you've got a leak in the ground, and especially when the ground is either a hard clay or frozen ground, and especially in the wintertime when the ground is capped. It's frozen, it's capped. The gas is going to migrate and it's going to take the least form of resistance, and it's going to migrate. And normally what it does, it will go into cracks of foundations or get into the sewers and then it will fill the house up full of gas.

And when I say full of gas, it doesn't take a lot of gas to cause an explosion in a house. If I remember correctly, it's from around 4 to 15 percent of gas and air mixture in the house, and then if something ignites it, it could explode.

Q. If you could focus just a moment on what you know about this unprotected steel pipe and what you have seen or what you've observed in regard to the problems around it, what's the reason why that pipe needs to be replaced?

A. Well, the pipe is old. Some of this pipe is -- your old cast iron is probably 50, 60 years old in the ground, and this was the original piping that was put in when it was Laclede Gas Light Company. And this piping is old, deteriorated pipe. And I personally worked on leak carts and leak trucks, which we would repair leaks on bare

steel services and replace joints that had caulked. We'd scale it off, clean it up and put clamps on there for that.

And then, as I say, you're always subject to the frost line in the ground, too, on the cast iron. If you get any movement in this ground, it could cause it to crack.

And most of this main is under concrete. When it's under concrete, like I say, it's subject -- when it's frozen, that it's going to migrate and it's going to go follow the path of least resistance, and it's -- a lot of your older houses in the city are old cobblestone walls. They're all full of cracks where it could get in there or it could come up through the sewer system.

Q. When you say cast iron mains, is that the same thing or something different than what's been called an unprotected steel main?

A. Well, it's basically -- it's -- there's -- yeah, there is some unprotected steel. I don't know how much unprotected steel main's out there. I'm not privy to Laclede's books. Okay. And I worked on unprotected steel mains where we relaid them and put new mains in there. And how much they have out there, I don't have a clue, but I know you have a combination of both out there.

Q. And when you were describing the cast iron main difficulties, is that the same -- do you have the same description or a different one when you're talking about

unprotected steel mains? I'm just trying to understand if that's a different category of line.

A. I would put them both in the same category. You know, you have steel main, which is steel. You have cast iron, which it -- there has to be a certain amount -- they're metal. They are both metal that is subject to corrosives from in the ground.

Q. When you referred to the age of the cast iron mains earlier, do you know if the age in the steel is similar or --

A. I would say they're close in proximity.

Q. There were certain categories that were discussed in the replacement program. Let me go through those with you, if I could.

A. Sure.

Q. In particular, I think -- I believe that the areas where -- were these, areas where extensive excavation, blasting or construction activities have occurred in close proximity to unprotected steel pipeline. That's one. Sections of unprotected steel pipeline that lie in areas of planned future development projects such as city, county or state highway construction, relocation, urban renewal and such.

Then there are sections of unprotected steel pipeline that exhibit a history of leakage or corrosion, and

sections of unprotected steel pipeline subject to any stray current. Those are the categories that were focused on in the replacement program.

A. Uh-huh.

Q. In regard to those categories, are those categories appropriate focuses, in your opinion, based upon your experience?

A. Yeah, I would say yes.

Q. And do you -- I think maybe we'll get some questions from some of -- from the Staff or company about specifics in regard to what those -- why they believe this reduction should occur, Mr. Schulte, that you could respond to.

A. Sure.

Q. I'm curious about -- if -- you stated earlier that you believe that a reduction in replacement would not be in the interest of public safety. Do you have any specifics to point to other than your concern that this is an issue that you think should not -- should not have a lowered amount of attention?

A. Well, each year you delay it, each month you delay it, and you -- as I stated before, that you have a product or a piping system in the ground that carries an explosive product. And if these pipes are old and deteriorated or deteriorating to a point where you could

start have escaping gas which would migrate into the houses or buildings or whatever, whatever structure it migrates into, there's always a danger to consumers and the public with that.

Q. Let me ask you about the -- there's also another category of replacement program that's for copper service line. Are the familiar with copper lines?

A. Yes, I am.

Q. Are you familiar with the copper line service -- copper service line replacement program?

A. Yes, I am.

Q. All right. What do you -- do you -- are you familiar with the rate that those lines are being replaced?

A. Yes, I am.

Q. All right. What do you think about that?

A. Well, I think right now it's probably an adequate rate, that they're trying to get them out of the ground as fast as possible and as economically as possible, and I -- I would not like to see any of that reduced whatsoever.

Q. If there -- if there were plans to maintain that program at the current rate, would you think that would be appropriate?

A. Yes, I think it would be appropriate, unless we started having a lot of gas leaks or explosions or where

gas is migrating into the houses. Here again, we're going into the winter months again, where people are using a lot more gas, the ground is frozen, and by having the ground frozen, the thaw moving it around could cause some gas to migrate into houses.

And you also have to understand that a lot of the bare steel services were the old Laclede system and they're under low pressure, where your copper services are under the medium pressure. It could be anywhere from 12 to 35 pounds of pressure on these services, and these services, the wall thickness is nowhere near the thickness of the bare steel or the cast iron.

Q. When you say the wall thickness, you're talking about line yourself?

A. That's correct. It is a thin wall pipe, in comparison to the cast iron or steel.

Q. What's the problem with the copper line, Mr. Schulte?

A. Well, we found out that there's probably two to three problems. It's -- the salt that is spread on the streets, they found out that the salt deteriorates the copper. Also, you have the normal acidity of the ground could -- depends on what soil and what conditions, where it's at -- could cause it to corrode. And then you have the nitrogen, which is one of the main ingredients in

fertilizer, that can eat into the copper and attack the copper.

So if you run into a section where people heavily fertilize their yards, there is always a possibility of it corroding that closer to the house, rather than at the salt line at the street.

Q. All right. Have you observed copper line that has been -- that has deteriorated from any of those causes?

A. Yes.

Q. Tell me what that results in, what you see.

A. Well, what you see is, you'll see a big glob of, like, white substance and the green dirt around it is all burnt. It will be whitish and greenish on the copper, and it basically just eats a hole right into the copper itself.

Q. When you've observed that, does it -- is there a relationship between the age of the line and when that deterioration occurs, or is it -- are there other factors that are involved in the amount of deterioration that you see in the line?

A. Well, I think the age has a certain amount of factor with it, depending on where it was at, what part of the city or county that it was located in, how close it was to the street. Naturally if you have a thinner wall pipe than a steel pipe, it's a lot thinner than the copper, and

the salt line, when it starts attacking and eating on the copper, it doesn't take a long period of time for that to eat through it.

And like I say, I -- personally, when I was on the street, I was dispatched to -- many times in the cold weather where gas was all over the place from these copper services that were leaking.

Q. Do you know whether or not the replacement program as it's going on has helped in the frequency of those incidents where workers are discovering leaks or having to deal with leaks of that sort?

A. I think the more they get replaced, the less amount of gas leaks you have throughout system. But there is a lot of them. I've talked to quite a few servicemen and leak department personnel out there, and mainly the leak department personnel, when they get out there, it's classified as a No. 3 leak. And when they dig it up, it turns into a No. 1 leak, because as soon as they remove the soil from around the pipe, it starts blowing.

So there is piping out there that in a situation like that there, a movement, a thaw, anything, in the ground vibration, could cause that to start blowing, rather than just seeping.

Q. I see. Why don't you explain what the categories of leaks are?

A. Well, you have three different categories when you go out there. You have a No. 1 leak, which is either gas in the house or -- it is gas in the house or in the sewers. Okay? A No. 2 is -- the last time I was on the street was with -- if you're within 10 to 15 foot of a house and you have gas there, they call that a No. 2 leak, which is, they have 15 days to repair it.

And you have a No. 3 leak, which they have five years by the Commission's rule to replace, and that could be 100 percent of gas at the curb when that happens. If you -- if I ain't mistaken, I think Crowley Lane was -- that house that blew up on St. Charles and Crowley Lane, it was classified as a No. 3 leak and it had been sitting there for over a year as a No. 3, and the conditions got to a point where rain pretty much had saturated the ground and it caused that ground -- that gas to migrate into a house.

So just because it's a No. 3 leak does not mean it's not dangerous, because conditions could form which could make it dangerous.

Q. Are those the three -- there are three categories only?

A. Correct.

Q. Mr. Schulte, since you mentioned it, it's a little afield from this, but is it your opinion that the Commission's rule in regard to classification of leaks may

not be -- may ought to be revisited at some point?

A. Well, that would be my opinion, yes, but I've been shot down many times before for it. But, you know, just because you have a No. 3 leak and it's at the curb, that does not guarantee that that gas could not migrate into the house and cause an explosion. And the Commission's rules is there's five years to repair that leak.

Q. I assume that there would be -- you might give us in some other forum an opinion about how that could be improved, in your opinion?

A. Sure.

Q. Since we're not on that particular issue right now, I'll --

A. I understand.

Q. -- I'll pass on to another issue.

Are you familiar with any of -- any other replacement programs that Laclede has currently ongoing, other than with the steel mains and the copper service lines?

A. No, offhand, I'm not familiar. The only thing I can interject is on the copper line. I mean, the copper line was instituted, from my understanding, for the direct buried copper, soft copper that's in the ground, but I don't know if it was overlooked or not talked about. You have thousands of feet of copper that when you -- when we went

in, when I was on the street, they put a new steel main in and replaced a bare steel service main. Okay?

Well, the way you would replace the service is you would slide hard copper through it, okay, and then at the curb you might have a 5 to a 10 put, depending on whatever it is, pigtail copper that was wedged in and sweated to the hard copper and then injected to the main. I don't know if that was addressed with the copper service program when that was addressed.

Q. Now, what's the problem with that, if any?

A. Well, it's at the street, it's at the salt line, and that's the cause of the explosion is that -- and I've talked to numerous men on the leak trucks which repair these, and they found numerous ones out there that were these old copper services or replaced through steel or relaid through, and then you've got the copper pigtail. And they're finding quite a few of them leaking, too.

MR. PENDERGAST: Your Honor, I think I'm going to object at this point, and I'm going to object because this is obviously hearsay. It's based on out-of-court statements made by people that I don't have any opportunity to cross-examine. And I think it's improper and I'd request that it be stricken.

JUDGE RUTH: Mr. Pendergast, I'm not going to strike the hearsay. However, the fact that it's hearsay

does go toward the weight of the evidence and obviously affects the extent to which the Commission may use it.

MR. PENDERGAST: Thank you.

BY COMMISSIONER GAW:

Q. Mr. Schulte, to the extent that you're aware of, from your own knowledge, about the lines that are there, is this -- is this line that you're talking about with the pigtail, is that also -- at some point in time, I believe I've heard something about copper that has been -- that has been either inserted over or inserted inside of steel or vice versa. I can't recall. Is that similar to what you're talking about?

A. Correct. The copper -- half-inch copper was inserted through three-quarter-inch service.

Q. And the service was steel?

A. Correct.

Q. All right. Have there been problems with that -- with that line, that type of line?

A. My understanding is, yes. If I ain't mistaken, on Point View Avenue in the city or right on the city/county line there, there was a house that blowed up there where two people were severely burned and injured.

Q. Okay. Do you know whether or not there is any replacement program or whether or not there's any discussion about the need for replacement in those type lines?

A. Not to my knowledge. The only thing that I'm familiar with is the direct buried soft copper that has been directed to have Laclede replace so many every year.

Q. When those lines are replaced, what replaces them?

A. Plastic.

Q. Okay. And is that -- when the steel mains are replaced, what replaces that?

A. Well, when I was out in the street, they were just getting to plastic. From my understanding right now, as a rule everything is replaced with plastic.

Q. If you were to -- this is if you have an opinion. If you were to rank the importance of the -- from a safety standpoint of replacing lines in the ground that Laclede -- where Laclede's service territory is, how would you rank the importance -- what should be -- what should be the priority that's addressed first in regard to line replacement?

A. I would say the copper, because of, as I said before, the thickness of the wall of the pipe and the salt line at the street. It doesn't take a lot to eat through this thickness of this wall. The steel, it's a lot thicker piping, and it's -- most of the steel is under low pressure, where your copper piping is under medium pressure.

Q. Okay. I think -- and I'm sure I'll be

corrected on this if I'm misstating this. I believe that Laclede is proposing and Staff is supporting a reduction in the replacement on the steel pipeline, in part because they're suggesting that would allow them to place more resources in other replacement programs.

Do you think that that -- that result is a good result? Is it something that you think that is not a good result? Do you have an opinion?

A. In my personal opinion, no, I don't think that any should be reduced. I mean, if you blow up one house and kill one person, what's the cost of a human life?

My opinion is, as a consumer, as a person, I would not want a bare steel main in front of my house that could migrate gas into my house.

COMMISSIONER GAW: Mr. Schulte, I believe that's all the questions that I have, and I just want to thank you for being willing to come in and speak with us this morning. I appreciate your time. Thank you.

THE WITNESS: My pleasure.

JUDGE RUTH: Commissioner Clayton?

COMMISSIONER CLAYTON: Thank you.

QUESTIONS BY COMMISSIONER CLAYTON:

Q. Good morning.

A. Good morning.

Q. Mr. Schulte, I appreciate you coming today as

well.

A. Thank you.

Q. It's kind of an ugly day to be fighting your way down from St. Louis.

Had you had an opportunity to review the Staff recommendation in either of these cases --

A. No, I haven't.

Q. -- from the Missouri Public Service Commission Staff?

A. No, I haven't.

Q. Are you familiar with prior orders of the Commission in years past relating to the varying replacement programs over the years?

A. Yes.

Q. You are familiar with those?

A. Yeah, I'm familiar with what Laclede has been directed to do.

Q. I guess it would be a fair -- I guess I'd like to read a sentence out of the Staff recommendation. I guess I want to be clear on whether you agree or disagree with some of these recommendations, just from your perspective. And just so if anyone wants to, cares to follow along, this would be the Staff recommendation, Appendix A.

The Staff agrees that this proposed final phase will continue to provide for public safety until all

unprotected steel mains meeting the requirements of 4 CSR 240-40.030-(15)(E) are replaced. And you're here today saying that you disagree with that statement?

A. No. I'm saying it should be replaced. I'm not saying we should not reduce the time frame that it needs to be replaced. I mean, obviously the Commission and the Staff, when they set this in place, when it was set up, they thought it had a priority that it needed to be done in that time frame. Why would you come back now and reverse yourself?

Q. Would you agree with the statement that the large majority of unprotected steel mains with corrosion history have already been replaced?

A. I can't say that the ones with the corrosive part have been replaced. I don't know, and I don't think Laclede can say that.

Q. Does it make a difference, in your opinion?

A. Yeah, it makes a difference. If it's in the ground and you have one that hasn't been replaced and that one's in a highly susceptible place where electrolysis is eating into it, how can you really sit here and say all of them have been replaced? There's no way of knowing that they have been replaced or the bad -- the bad sections are out.

Q. You may have answered this earlier, but is

there a difference in -- in terms of safety, a difference between the unprotected steel lines and the copper lines?

A. Well, I think I did, but --

Q. Would you mind repeating that?

A. The difference I'm saying is, the steel lines are -- and I don't know the wall thickness. I would think they're from an 8th to a quarter-inch thick, and I would say your copper lines are maybe a 16th-inch thick, maybe less than that. I don't know the wall thickness.

Q. You testified earlier that you were not aware of the amount of these mains that are still out there left to be replaced; is that correct?

A. I have no access to Laclede's records whatsoever there.

Q. There's a reference in the Staff recommendation that more than 3.3 million feet have been replaced to date. Would you agree with that?

A. If that's what their records say. Like I say, I cannot verify that.

Q. There's another statement in here that states that Laclede has experienced a continuing and significant decline in the corrosion leak rates associated with unprotected steel mains. Would you agree with that statement? Would you have a way to gauge that statement?

A. I have no way to gauge it, but general

knowledge would tell you that if they've been replacing it on a yearly basis, that they've been eliminating -- naturally some of the leaks are being eliminated as they go down.

Q. When you started your testimony, you stated one way or another you've been affiliated either with Laclede or with Pace Local for some 35 years?

A. That's correct.

Q. So you've been involved in one way or another on this replacement program since it began many years ago; is that correct?

A. Yes, that's correct.

Q. Is there, in your opinion -- you may not know this or may not have an opinion, but is there a way to rank, in terms of greater safety risks, the different types of unprotected piping that is in the ground?

A. Well, yeah. I would say that your copper has a greater risk than -- than the bare steel, because of what I stated before. Most of your bare steel is under low pressure, which is about a quarter pound of pressure, between a third and a quarter pound of pressure, so under about 15 inches of water column. But when you get into -- I'm sorry -- 5 inches of water column.

But when you get into the copper, you have a thin wall piping that's subject to the corrosion from the

three different elements, and this pipe could have anywhere from 12 to 35 pounds of pressure, depending on how much pressure Laclede has in their lines.

Q. You testified earlier to safety issues involved when gas leaks into a house. Are there any other safety issues associated with these programs that you can testify to?

A. Well, the main safety issue is leaking into the house, but it also could leak into the atmosphere. I mean, we've -- I haven't seen it personally. I've had servicemen talk to me about it, where the people have -- the ground has caught fire when the gas was leaking up through the ground. I can't verify that. I'm just going by hearsay, what I've been told.

MR. PENDERGAST: Your Honor, the same objection I had before. I assume I'll have the same response?

JUDGE RUTH: Yes, Mr. Pendergast, any hearsay from the witness will be seen as such and the fact that it is hearsay will go towards the weight of the evidence, but I'm not going to strike words of the answer.

MR. PENDERGAST: Thank you.

COMMISSIONER CLAYTON: Just for future reference, you may not want to identify your hearsay testimony that readily.

THE WITNESS: I knew he was going to object to it.

COMMISSIONER CLAYTON: Judge, I don't think I have any further questions. Thank you.

JUDGE RUTH: I have a quick question.

THE WITNESS: Sure.

QUESTIONS BY JUDGE RUTH:

Q. It's my understanding that the Commission-approved initial program for the unprotected steel main lines required Laclede to replace 30,000 feet per year for the fiscal years 1991 through 1995?

A. Uh-huh.

Q. And that an amendment was made to the program later, I believe, in around October 1994, and at that time the rate was established at 20,000 feet per year replacement?

A. That's very possible.

Q. Okay. I was going to ask if you were familiar with the fact that there had already been a step down from the original?

A. No, because I only took office around 1993, and this was all new to me. I had just come off of the street as a serviceman for Laclede Gas, and I took this position in dealing with the Public Service Commission and the rates. And everything was all new to me, and I was in a

learning process.

JUDGE RUTH: That's fine. Thank you. Let me make sure that there aren't any additional questions from the Bench?

(No response.)

JUDGE RUTH: Okay. I do want to give the parties an opportunity to ask questions of the witness. However, as the witness is not represented, I'll ask you to take it upon yourself not to badger the witness. And if I see a problem with that, I probably will address it -- or not probably, I will address it.

As we stated previously, this is not a standard evidentiary hearing. If the Commission feels that that is necessary, we will have an additional hearing where all witnesses would be represented by counsel. But first, Public Counsel, let me ask if you have questions for this witness?

MR. MICHEEL: I have no questions for Mr. Schulte today.

JUDGE RUTH: Thank you. And Staff?

MS. SHEMWELL: We do have -- I do have some questions specifically on copper, and I think Mr. Berlin may on the steel service, since they are two separate cases.

JUDGE RUTH: That's fine, but since the microphone at this table is not working, I will ask that you

move to the lectern and identify which case you're addressing.

MS. SHEMWELL: I will be happy to do that. Since we did not have prefiled direct, I would like a moment to consult with Staff before we begin that process, just a moment, if that would be all right?

JUDGE RUTH: Is five minutes adequate?

MS. SHEMWELL: Certainly.

JUDGE RUTH: We will take a five-minute break. I will ask that people stay close by and we're off -- we are off the record for just five minutes. Thank you.

(A BREAK WAS TAKEN.)

JUDGE RUTH: We are back on the record.

Laclede, I believe we are ready for any questions that you -- I'm sorry. I said Laclede. I meant Staff.

Staff, we are ready for any questions you might have for this witness. And would you move to the lectern? Your microphone's not working and it may be hard to hear you.

MR. BERLIN: Yes, your Honor, I have some questions for Mr. Schulte.

CROSS-EXAMINATION BY MR. BERLIN:

Q. Mr. Schulte, again, I'm Bob Berlin and I'm the attorney for Staff on the steel -- unprotected steel main

replacement program case.

Mr. Schulte, I'd like to know that, based on your recollection, would you have an idea as to when the last failure of an unprotected steel main line resulted in explosion or any significant damage to property?

A. No, I can't say offhand. Like I say, that's not shared with us from the company or shared with me from the company.

Q. Are you also -- you had directed earlier comments to the Commissioners regarding your concern over cast iron main replacement; is that correct?

A. Yes.

Q. Are you aware that the cast iron main replacement is covered by a separate program, and that is not at issue today?

A. No.

Q. And am I correct in understanding that, based on your own concerns, that you believe the copper service line replacement program is a priority -- is of greater priority than the unprotected steel main replacements?

A. Yes, to an extent, because if you have some bare steel with medium pressure in there, that would be a concern to me also, but I'm talking about the pressure that's in the piping itself. There's the concern. The more pressure you have in the ground, the more gas when you have

a leak is migrating into the ground. Not that the others is not as dangerous too, but to my opinion, that has a bigger priority.

MR. BERLIN: Thank you, Mr. Schulte. That concludes my questions.

JUDGE RUTH: Thank you. Ms. Shemwell?

MS. SHEMWELL: Thank you.

CROSS-EXAMINATION BY MS. SHEMWELL:

Q. Good morning, Mr. Schulte.

A. Good morning.

Q. I'm Lera Shemwell. We've met a number of times. I'm representing the Staff in the copper service line case and the leak investigation analysis of Laclede's survey procedures, and that is the GO-99-155 case.

Mr. Schulte, have you had the opportunity to review the data and information that Staff reviewed when making its recommendations in the copper case?

A. No, I was not given any information. The bad part about this, unless we intervene or something like that, we're not privy to all this information.

Q. Have you asked Staff for copies of this information?

A. No, I have not.

Q. Are you aware in the copper service line replacement program, that leak surveys are an essential part

of that program?

A. Yes, I am.

Q. Do you have any knowledge as to whether or not the leak survey program combined with copper replacement has reduced the number of leaks that are being found each year?

A. I -- Laclede does not share that information with us.

Q. Are you aware that -- you talked about high pressure and that concern with that, right, which leads to mi-- potentially to migration of gas.

Are you aware that the high pressure areas in Laclede's territory have received priority in the copper service line program?

A. Well, I would say anything on a copper service basically, unless it's in the city, is on medium pressure, throughout their whole system.

Q. As opposed to?

A. To low pressure. You have some one-inch lines or inch-and-a-quarter steel lines in the city that were relaid with one-inch copper. Okay? But the bulk of the soft copper direct buried lines are all on the medium pressure.

Q. I know that you don't -- that you work for Pace now, but have you been out in the field within the last year or so and actually observed any copper service line

replacement?

A. Yes.

Q. How many?

A. I couldn't judge how many. I've been on a few jobs, but to say I sit there and watched them, I don't have the time to sit and watch all that.

Q. My question was leading to whether or not you're aware if the majority or what percentage of the copper lines are currently being removed actually have, I think what you described as a white glob, indicating corrosion. Do you know how many copper service lines that are currently being replaced are actually corroded?

A. I would say just about every one, because my understanding is Laclede puts a priority to them. The ones that they sent them out there on, when they dig them up, they're leaking. Okay?

Q. So you're saying --

A. There's -- possibly there's some out there that are not leaking, okay, but I'm saying -- and here again, I'm hearing from the people that work on these, that the bulk of them that they dig up, there is minor leaks on them. I'm not saying they're all corroded, you know, where they're going to pop loose every time. I'm saying just about -- because it's my understanding that that is Laclede's priority, to send them out there on the ones that

are leaking.

Q. Is there any type of gas line that doesn't leak? Can they -- is there any material that doesn't leak?

A. Not that I know of.

Q. And is gas migration that you've identified as a concern, is that a concern with any type of pipe that's going to be out there?

A. Could you -- could you repeat that?

Q. I guess my question is, can any type of pipe that delivers natural gas, can there be migration from that pipe?

A. I would assume there could be, yeah, if it has a leak in it.

MS. SHEMWELL: I think that's all I have. Thank you, Mr. Schulte.

THE WITNESS: You're welcome.

JUDGE RUTH: Mr. Pendergast, would you come forward also, please, if you have questions?

CROSS-EXAMINATION BY MR. PENDERGAST:

Q. Good morning, Mr. Schulte.

A. Good morning.

Q. I just have a few questions for you, if I could.

I believe you've indicated in response to questions from Chairman Gaw, as well as Commissioner

Clayton, as well as Ms. Shemwell that you did not review the Staff's recommendations in the copper service program or the company's application in the unprotected steel main docket or the Staff's recommendation in that case; is that correct?

A. No, I don't have any of that information in my office.

Q. Okay. So you would be unfamiliar with any of the factual assertions that are made in any of those documents to support whatever relief is being requested in them?

A. Could you rephrase that? I don't understand what you're trying to say.

Q. Since you haven't read them, you won't be aware of any of the facts that are being asserted in those documents in support of whatever recommendations or requests are contained in them?

A. No.

Q. So you wouldn't be in a position today, would you, to dispute any of those facts since you're unaware of what they are; would that be correct?

A. As I said before, Laclede does not share their documentation with me, so I have no idea what's in your facts.

Q. Speaking of that, are you aware that the vast majority of these documents are on the Internet and anybody

can go and get them just by clicking on the Commission's website?

A. No, but if you'd like to give me that information, I'd sure like to have it.

Q. Consider it given, and I'll see if I can give you the specific link after the hearing's over.

You indicated that you have been the business representative for the union for approximately 10 years; is that correct?

A. That's correct.

Q. And prior to that time, you were in the services department?

A. Probably for roughly around 15 years, somewhere in that time frame.

Q. Okay. And during that 15-year period, what were your job responsibilities?

A. Well, I would say as I started out I was a turn-on man, which I turned gas on and off for customers. And I got promoted to a special adjust, which responds to gas leaks and repairs furnaces and just about anything needs done. Then after that I got promoted to fitter, which just about covers anything on Laclede's system.

Q. Okay. Well, in the capacity of performing those various activities, would you have worked on or replaced any copper service lines?

A. No, but I would have been sent out there on leaks, and I've been sent out there as a serviceman on quite a few jobs, because I worked emergency board most of the time.

Q. Okay.

A. And I found numerous leaks. To say it was the copper or the main leaking, I can't say, because I was not in the street department. All I did was report that to a leak foreman.

Q. Fair enough. And you haven't had any hands-on work with removing copper service lines during your tenure as business representative for the union, have you?

A. Any hands-on work in removing?

Q. Yes, actually doing the process yourself, as opposed to maybe occasionally observing it?

A. No.

Q. Okay. And would the same thing be true with respect to work on unprotected steel mains?

A. There's no way I could work on one if I'm not working for Laclede at the time.

Q. Okay. And that would be true not just for the last 10 years, but that would also be true for the 15 years before that when you were working in the SAID department; is that correct?

A. That is correct, but I was out on numerous

jobs where the street department was there on the job, where I had to call them out there to the job. So I'm familiar with a little bit of the services and the main.

Q. Okay. But once again, no hands-on experience with working on it during that time frame?

A. Not repairing it, no, or replacing it.

Q. You were asked some questions about your knowledge of what the leak history has been on various facilities. Would it surprise you to learn that back in the 1970s, the experience -- annual experience of leaks in connection with unprotected steel that required clamping was somewhere in the neighborhood of 3,000 per year. Would that sound about right to you?

A. Here again, I have no -- I worked on them in the '70s when I was in the street department. I've clamped services, I've clamped mains, I've clamped bell joints, and I've worked on a lot of it, but as far as me to agree with that statement, I can't. I have no record or no access to your records on what you've done at that point in time.

Q. So you'd have no reason or no knowledge to dispute that 3,000-per-year number?

A. I have no access to your records, so how could I dispute it?

Q. And would the same thing be true of what the experience with those kind of leaks were in the last year,

you wouldn't know, you wouldn't have any reason to dispute whether or not there were only 30 of them in the last year?

A. Well, the company -- here again, the company does not share that with me, so I would have no -- no way to dispute it or agree with it.

Q. Okay. Do you know how often copper service lines are surveyed?

A. In my opinion, I think you survey them every year.

Q. And do you know how that compares to the Commission's rules as far as the normal time frame for surveying service lines?

A. I don't know how often the Commission tells you to do it.

Q. Do you know how that compares to any federal standard for surveying copper service lines?

A. I have no idea.

Q. You were asked several questions about -- you were asked several questions about unprotected steel mains and various categories that they are placed in. Are you aware that there are certain categories of main that, because of their location next to buildings or concentrations of the public or under continuous pavements are distinctly classified as potentially more hazardous?

A. No. Here again, Laclede does not share that

information with me, so I would no knowledge of that.

Q. I'm speaking of the Commission's rules right now. Do you have any knowledge of the Commission's rules?

A. No. No, I don't.

Q. Okay. And you're aware that the Commission's rules are something that are available to everybody?

A. No.

Q. Okay. Do you know how quickly and in what time period Laclede replaces a leaking copper service?

A. I would assume if they found it leaking and it's a No. 1, they're going to replace it that same day.

Q. What if it's a No. 3?

A. Well, I don't know your rules on what you do on a No. 3. All I know is the Commission rule on a No. 3 leak is you have five years to repair.

Q. And you're unaware of whether Laclede, under its copper service program, replaces them more quickly than that?

A. The only thing I know is if they are out there and you send them out there to replace it, they replace it the same day.

Q. Okay. So the answer would be, you're unaware of how our replacement time period compares to the replacement time periods for other leaks for other kinds of facilities?

A. Here again, you don't share that information with me, so I have no knowledge.

Q. To the extent that the company and its workers are required to go ahead and replace facilities, do other work to make the system safe, is it your view that those costs should be fully recoverable?

A. From who?

Q. In rates.

A. Sure.

Q. And do you think that's important?

A. I think it's important. If they have to be done and they're being directed by the Commission to be done, sure.

MR. PENDERGAST: Thank you. I have no further questions.

JUDGE RUTH: Thank you. Are there any additional questions from the Bench?

(No response.)

JUDGE RUTH: Okay. Then, Mr. Schulte, thank you for coming, and you may step down. You are excused.

THE WITNESS: Thank you.

(Witness excused.)

JUDGE RUTH: As I mentioned before, there may be some questions from the Bench for specific parties. What we'll do is, we'll start with asking Commissioner Gaw if he

has any questions. He'll ask the question of one particular party, and then the other parties will also have an opportunity to respond to that question.

Okay, Mr. Chairman?

CHAIRMAN GAW: Thank you, Judge. I'd like for Staff and Laclede to both give me some concept of where these additional resources are going. If they're not going to be going toward the same degree or same frequency of replacement, where is it going? Is there an agreement that it be put in certain -- there's reference to other replacement programs in some of the documents that we have, and I'm not clear about where that is that the resources are going to be going.

Staff?

MS. SHEMWELL: Judge, of course in terms of the copper service line replacement program, we're not recommending any reduction, so there will not be any change.

CHAIRMAN GAW: I'm aware of that, but there is a reduction in the other program and there's reference to resources being placed in other areas. And I want to know where that is, how much and the rationale for the other programs having priority.

JUDGE RUTH: Sir, I'm going to need you to come up to the witness stand and I will swear you in.

MS. SHEMWELL: Staff would then call Bob

Leonberger to the stand.

JUDGE RUTH: Sir, would you please raise your right hand?

(Witness sworn.)

JUDGE RUTH: And would you state and spell your name for the record?

THE WITNESS: Robert Leonberger, L-e-o-n-b-e-r-g-e-r.

JUDGE RUTH: You may answer the question.

ROBERT LEONBERGER testified as follows:

THE WITNESS: The steel main replacement program really hasn't been -- Laclede has been on a schedule that -- of 20,000 a year past the time the -- the other schedule -- they've gone past the time the other schedule was to replace the 20,000 a year. So at this time, there hasn't really been a per se reduction. We haven't really discussed with them, you know, we're going to take this money and put it here. The money would be available for that. We haven't discussed that, no, but at this point there hasn't been a reduction.

QUESTIONS BY COMMISSIONER GAW:

Q. A reduction from the 20,000?

A. The schedule hasn't been changed. They've been replacing on the same schedule.

Q. Which is 20,000 feet per year?

A. I don't know exactly what the amount is this year.

Q. Are you saying it could be more or less?

A. I don't know what the amount is this year, for 2003.

Q. So we don't know if there's 20,000 being replaced this year or not?

A. I don't know what the number is for 2003.

Q. My understanding from the memo was that there hadn't been any change in it, and that the Commission was being consulted about whether it was appropriate to change. You're telling me --

A. There's not a schedule. The schedule ran out, I think, in -- the actual schedule from the -- Laclede had ran out. There's not a schedule at this point. They have a program in place, and the -- our case was to make another -- the schedule formal for the year, since there's no -- right now there's not a formal schedule in place, but they have been having a replacement program on those.

If I may, Mr. Chairman?

Q. Go ahead.

A. The main point is that we haven't really changed. You know, we haven't really changed anything yet, so we haven't really -- we haven't had the discussion about where that money would go, no, we haven't changed anything

yet to know where it is going.

Q. Your comments are trying to answer my one question, but you've raised this other question for me now, because the memo that we have seems to imply that the replacement has continued at the historical number of 20,000 feet per year, and I'm hearing you say that you don't know if that's correct. So that's why I'm --

A. This year, I don't know if that's correct. I don't know what the numbers are for this year.

Q. Okay. There's been no discussion with Laclede about what those numbers are for this current year?

A. We've had some. I'm just not aware what the numbers are exactly, no.

Q. I know Laclede can answer that, but -- the issue -- in the information that we have from Staff, there's an indication that these resources would go to other areas. What I want to know is, has Staff entered into discussions about where those priorities ought to be, if it's not with the steel mains?

A. Well, the priorities obviously that we would say would be the copper program. We haven't discussed that X number of men would go to that program, but the priority we would have would be the copper program.

Q. But are you saying that there should be more copper replaced per year?

A. No. We are -- we believe that the copper program right now is adequate. As we said, the number -- the leakage rate is going -- the leakage, the number of leaks that are found during the surveys is going down. We believe the program is -- right now is very good.

Q. When was the last rate case for Laclede?

A. I don't know.

CHAIRMAN GAW: Can somebody answer that question for me?

MR. PENDERGAST: It concluded at the end of 2002.

CHAIRMAN GAW: 2002.

BY CHAIRMAN GAW:

Q. So, Mr. Leonberger, in the last -- the last rate case would have had the replacement program at 20,000 feet per year or 30, which would it have been, if you know?

A. I don't know. What I assume -- whatever the test year was, I assume that would have been in there.

Q. Have you been out to see these lines as they're being replaced?

A. The copper ones? I've seen some replaced, yes.

Q. And what about the steel?

A. Steel mains?

Q. Yes.

A. I haven't seen some replaced for some time, no, but I have in the past, yes.

Q. Tell me what your view is of the safety problems with the steel mains.

A. My view is that over a period of time, way before our rule went into effect, Laclede was replacing unprotected steel mains at a fairly high rate. And the number of leaks that we found, that Laclede finds on unprotected steel mains has gone from, I believe, a very high number to a very low number in this time period.

That's why the Staff recommended that it would -- we believe, I guess, the program has matured to where we've -- the number of leaks being found are reduced to a point where the Staff believes it's appropriate to reduce the amount that's replaced every year.

Q. That would make sense, wouldn't it, anyway, when you've already replaced a number of the problems? But that doesn't mean that those that are left are necessarily anything other than you've got fewer leaks because you've got fewer problem pipe. You're now saying that there's something less of a priority on the remaining pipe, if I understand you correctly. I'm trying to understand why that is a lesser priority.

A. My -- I guess in real simple terms, you're

able to get ahead of the problem. You replace enough of the pipe, you have annual leak surveys over the pipe that is more stringent than the federal rules, so you're able to find the leaks before they become a problem. When you find the leaks, you put those in the program to be replaced or you clamp them or put them in the program to be replaced, so you stay ahead of those problems.

You stay ahead of the leaks becoming a hazard. You catch them before they become a problem, because your annual leak surveying that that data puts the -- those pipes into the program, and then the program then replaces them or collapses them. That way you stay ahead of the problem.

Q. Okay. And on one -- on one level I think I'm following you. You're saying that you've got some areas where you can monitor them better because you've got less of a problem area to monitor. Is that what -- is that what you're saying? In other words, your resources can be devoted -- instead of being spread out all over the place and you've got problems everywhere or in a larger area, now your area of location is smaller, so your monitoring may be more effective than it had been in catching --

A. I would say the monitoring's more effective. Before leak surveys were done on that three-year period. If you do a leak survey on a three-year period, then the leak could get a lot worse between the frequency of the leak

surveys. By moving the leak survey frequency to every year, you're out there every year and the corrosion, the -- hopefully that you find it, then, before it becomes a hazard.

Then, like I said, you're able to deal with it, but what I'm saying is, that's why over the period of years you're able to find the leaks quicker and the leak is not laying out there for three years. And then you're able to address those leaks before they become a problem.

Q. Okay.

A. I must not be understanding your problem -- your question obviously.

Q. No, but that's okay. I'm trying to -- I'll follow through your thought process for a moment. I'll get back to mine. The issue of the every three years, when did it become every year?

A. We put it in our rules in 1989. That's when the 19 -- the rules in 1989 replace -- that's when the rules changed, December 15th, 1989. Now, the rules changed, we required the more frequent leak surveys, and that's when we required the replacement program for cast iron, unprotected steel mains, unprotected steel service lines.

Q. Okay. So the issue of doing them every year has been in effect --

A. That's my point.

Q. -- really since 1989?

A. That's my point. We have been -- this is not something we've been doing for a couple of years. We've been doing this for ten years and -- I can't add -- 13 years, to where we've been out -- Laclede has been out there for -- doing annual leak surveys for a long time and finding where all the problems are and addressing those problems for 10 years, not just for a couple of years. We've been doing it -- they've been doing it for over 10 years.

What I'm saying is, in that period of time, doing the more frequent leak surveys and a program to address those problems, we've gotten ahead, kind of caught up to the problem and gotten ahead of it.

Q. But there's been nothing changed about the number of leak surveys that are being done in the last -- since 1989, but the reduction in the replacement program has occurred during the time when that was constant?

A. Yes, but the number of leaks that are found during those surveys has dropped or the number of clamps that are put on the pipe has dropped drastically.

Q. Because there has been pipe replaced?

A. Right.

Q. My question is, of the pipe that's not replaced, is there something that's less of a problem about the pipe remaining than the pipe that has already been

replaced that warrants it not being replaced at the same clip?

A. Well, my point -- my thought would be that there is -- it has not exhibited a problem yet. So that pipe is not exhibiting a problem; we have not found leaks on it. If we do -- our way of finding problems and addressing areas that are problems is by the leakage rate. If the leakage rates -- that's what we talked about in all of our replacement programs. If the leakage rates we monitor start to go back up, then we want to -- we want them to continue to decrease. If they're not doing that, then we realize we're not doing our job.

Q. Maybe I'm not understanding how the leakage rates are measured. When you measure the leakage rates, are you talking about a quantity of leakage rates over the entire system or a percentage of leakage rates per foot of pipe? I mean, you understand what I'm asking?

A. In the copper program, both ways. I mean, we have percentage of leaks we found, like, if you -- obviously if you replaced 8,000 one year, you'd have 8,000 less. I mean, finding the same number of leaks would be bad, because you found the same number of leaks on less pipe.

Q. That's where I'm asking about this issue.

A. The number -- the number of leaks per mile of pipe is decreasing.

Q. Per mile is decreasing. And is that true with the steel as well?

A. Yes.

Q. Okay. That has not been clear before to me.

A. So the idea is the pipe that's out there, it must not be -- it's not leaking at this point, so it's been out there for a long time and not leaking. We continue to monitor that, so there's not -- if it's not leaking, we don't believe there's a reason to replace it. Decreasing the rate is appropriate because we would be replacing pipe that's not leaking.

Q. The pipe that remains in the steel pipe, steel mains, how old is that in comparison with the pipe that has been replaced? Is it younger, older, the same age, do you have any idea?

A. I don't know. I don't know. Laclede may know that.

Q. If we're talking about refocusing resources that are currently being utilized for the replacement program on steel mains, where would you recommend that those resources be placed in? What kind of replacement ought to be done that's not being done currently?

A. This continuation of the copper program, the --

Q. We should have more dollars to spend on this

now, so should we put more dollars in the copper replacement program and speed it up?

A. I don't know if it's -- I don't at this time believe that I can say that it's appropriate to speed that program up. I think that on other safety issues that we may -- we have, yes, but I don't think it's appropriate to speed that program up. And if there are other -- if there are resources freed up, then yes, we should discuss with Laclede where we can do that.

Q. Okay. What about the cast iron replacement program, would that be -- I'm not familiar with what that rate of replacement is or where it is, and since it's an issue in regard to where resources might be placed, what is the status of that program?

A. I think that's another program that's a mature program also. Laclede replaced -- was replacing cast iron at a fairly good rate before our rules went into effect. There again, you have areas you identify, areas where pipe is -- may have a problem and replace the problem -- the problem areas. I -- we haven't -- the copper -- the cast iron program hasn't been something we really wanted to -- or I believe more emphasis should be put on at this point either.

Q. Do you know what the rate of replacement is on that?

A. I mean, I could get that, but I don't have it. It wasn't part of this case today, so I don't really have it at my fingertips.

Q. Sure.

A. I could get it.

Q. It might be something we'd like to have, but you don't need to do it right now.

There was an issue brought up by Mr. Schulte -- or another issue about the copper on steel, and something about a pigtail connection. Can you explain, if you know, what that's about?

A. The pigtail is a piece of copper that would come up, go between the steel service line and the main or other locations. It's just kind of more of a -- I guess, a connector they use between the two at times.

Q. All right. And is there pipe -- is there pipe in the ground that is -- that is copper on steel as well or steel on copper -- I don't know which way it would be -- where the pipe has been sleeved at some point in time?

A. There is a hard copper that's put in -- that has been inserted inside of steel service lines.

Q. Okay. And is that -- is that something that there's been issues about whether it ought to be looked at in replacement?

A. There is -- currently they are required to

monitor the leaks on the hard copper, the hard copper inserted in steel, yes.

Q. Okay. Is there a replacement program for that?

A. They're required to replace them whenever they find a leak and they're monitoring, yes. There's not a percentage replacement program at this point.

Q. So there's not a program similar to the one dealing with the copper alone or the steel main?

A. That's correct.

Q. Okay. Is there any other -- are there any other replacements that you think ought to be looked at, other than those that are discovered by leaks, where leaks are discovered?

A. On anything or --

Q. Yes, on Laclede's system.

A. Well, on the copper program, I guess I would disagree that -- with the statement made earlier that most of the ones that are taken out of the ground are leaking. The leakage rate we're finding is replacing 10 percent of them per year, and the leakage rate we're finding is about 10 times less than that. So I would disagree that the number of copper -- that almost all the service lines being taken out of the ground are leaking.

So I don't think it's a leaking -- it's not a

leaking pipe replacement program. It's an aggressive, proactive program to get ahead of the problem, and we've seen the leakage rate decline, percentage leakage rate decline on those.

So I think that all the programs we have, we don't want to have a leaky pipe program. The programs that Staff designs are ones that we believe that find -- hopefully find the problem before they become hazardous leaks and gets them out of the ground ahead of the rate that they're leaking. So we're getting ahead of the problem and making headway.

Q. The pipe -- description of the corrosion on the pipe that Mr. Schulte described, do you disagree with that part of how you describe the corrosion occurring?

A. On the copper?

Q. Copper and steel.

A. I never -- most of the -- yes, I don't see the copper, you know, we just don't see -- we see basically a corrosion pretty much around the pipe. We don't really see pinholes that much on copper, the ones that we've been talking about.

Q. Do you see pinholes in the steel?

A. That's a lot of the way the steel would corrode, yes. Small holes.

Q. What about -- is the -- but the description of

how the corrosion occurs that Mr. Schulte gave, do you disagree with that?

A. I think the description he was talking about would be seeing white stuff on the ground or green stuff on the ground as more of a gas escaping from the ground and there's bacteria or stuff like that. It's not necessarily corrosion product necessarily. Now, the green stuff on copper may be, but the white stuff he was talking about was more of a bacteria or something that grow from the gas in the ground, not from the corrosion products.

Q. He described several different causes, though, for why -- why copper deteriorates and why steel deteriorates in the ground. Did you disagree with what he was describing there or do you want to just describe how --

A. I'll just describe -- I'll just describe what we went through on the copper program. We tried to identify the soil types, the types of corrosion that may occur, the soil types, the locations and a lot of different areas, even point to road salts as a potential problem. We really never specifically identified the problem.

So the idea that you can't specifically identify the program, what you want to do is start a program that would -- aggressive leak surveys, right over the point where we think the leakage is occurring. That's a special survey, a bar hole survey right at the point where we found

the leak, and an aggressive replacement program. And we used that -- we started that back in 1989 with the unprotected steel program, and it was a very effective program, so we use that same model to use on the copper program.

That's what we -- that was our thinking there. And we believe that the leakage rates have declined, so we believe we're getting ahead of the problem. I don't know if that answers your question there.

Q. Not specifically, but that's all right.

A. I'm not doing a very good job on that today.

Q. That's okay. Mr. Leonberger, recently there was an article in the paper where you were quoted -- and I don't know the exact quote -- dealing with pipe in another area, not in Laclede's territory, but that had to do with plastic pipe. And, at least, the article raised the question of the potential of certain plastic pipe being defective.

MS. SHEMWELL: Sorry. Mr. Chairman, we have an open investigation, an open case.

CHAIRMAN GAW: I'm not going to ask him about that case.

MS. SHEMWELL: Okay.

CHAIRMAN GAW: You can object if you want to.

MS. SHEMWELL: Well, I'm just concerned with

discussing a case that we have open with the other parties not present. Perhaps discussion of plastic pipe in a very general way.

CHAIRMAN GAW: I was just referring to a public document in the Springfield newspaper, is all I know about it.

MS. SHEMWELL: My concern is that it relates to --

JUDGE RUTH: Unfortunately, I'm not familiar with the article firsthand. Was the article in relationship to another case?

CHAIRMAN GAW: I'll rephrase.

MS. SHEMWELL: The article was in relationship to a very specific case that we have open.

CHAIRMAN GAW: It will -- I'll rephrase, Judge, and please interfere with me if I'm getting into a difficult area.

BY CHAIRMAN GAW:

Q. Mr. Leonberger, are you familiar with any plastic pipe that may have a problem or may have been alleged to have been defective?

A. There's certain types of pipe that there have been alert notices put out on by the Office of Pipeline Safety that may be more susceptible to cracking.

Q. All right. And the only reason I want to ask

about this is just to see, is there any of that pipe that's of concern in the Laclede service territory, if you know?

A. I don't know. I don't know. But, I mean, I will say this, like the copper program, the unprotected steel program, the cast iron program or the plastic, if we during our routine inspections see anything where we believe that -- if we see something at one company and -- or we believe that there would be applicable to all of them or we believe that what is ongoing now is not adequate, we'd be the first ones to come to you-all and say we don't think it's good enough.

Q. And I'm not suggesting that you wouldn't, Mr. Leonberger. I'm just trying to see where these resources that are being freed up might be best utilized, and I'm asking the questions to see whether or not there have been any inquiries with Laclede about that issue.

A. There have been -- there have been inquiries with them about the type of pipe they have, and I just can't recall if they had that specific type of pipe or not.

Q. So you just don't know?

A. Right. There's somebody here that would know, but I don't know.

Q. Okay.

MS. SHEMWELL: Not me.

BY CHAIRMAN GAW:

Q. Someone can tell me that if I need to, though?
A. I'm sure that someone on the Staff can tell you that or Laclede can tell you that.
CHAIRMAN GAW: All right. I'll let whoever wants to venture there get there when we get to that point. But thank you for that.
I believe that's all I have right now. I'll pass it off to Commissioner Clayton. Thank you.
JUDGE RUTH: Commissioner Clayton?
QUESTIONS BY COMMISSIONER CLAYTON:
Q. Good morning. Just to help me with a little background, how long have you been with the Commission?
A. I've been with the Commission for 21 years.
Q. 21 years. I'm not even going to count back. So you were here in 1989 --
A. Yes.
Q. -- for the implementation of -- I suppose the implementation of the rule?
A. I helped draft those rules, yes.
Q. Okay. How many years had you been here prior to working on that rule?
A. I started here in 1982.
Q. 1982. Okay. And what is your background and education?
A. Engineering.

Q. Engineering. Okay. Did you work in this field before you came to the Commission or did you --

A. I worked at the Highway Commission for five years. I designed bridges for five years.

Q. Okay. Can you describe to me the criteria listed in (15)(E)3 and (15)(E)6, which I believe are the criteria for replacing these mains?

A. I don't have it with me, but I can -- the unprotected steel mains, you're talking about?

Q. There's a reference in here that as we talk about --

A. I can get my book.

MS. SHEMWELL: If we may approach.

THE WITNESS: I can get my book, if you want me to.

COMMISSIONER CLAYTON: Sure. Whatever you need. Whatever you need.

JUDGE RUTH: I do have a copy of the rule, if it's needed. And it is an unmarked copy. Do you mind telling me what you brought up to the witness stand?

THE WITNESS: Just the rules.

JUDGE RUTH: Okay. Your copy of the rules?

THE WITNESS: Your question is (15)(E)?

BY COMMISSIONER CLAYTON:

Q. Well, the piping that is subject to this

hearing today, I guess to restate this, that the replacement of pipes in the past has been based on whether or not certain pipes meet criteria listed in the rule. And specifically I'm referring to (15)(E)3 and (15)(E)6 and I'm pulling that out of the Staff recommendation. Now, is that if I'm mischaracterizing this program --

A. Well, this replacement program, we -- we want the priorities now? I can discuss this to a certain extent. One of the other Staff members is more familiar with -- is the one that worked on this.

Q. Help me with just the background for how this rules works.

A. Okay.

Q. Basically you set out criteria in (15)(E) on -- back in 1989 for how certain piping was going to be replaced?

A. Right.

Q. Is that correct?

A. We had priorities. We believed certain things are more -- should be of higher priority.

Q. Okay. Help me with those priorities.

A. Okay.

Q. And I don't have a copy of the rule, and I really don't want to go through every paragraph, but can you give me an idea of how you prioritized when the rule was

written?

A. Well, the rule says this program should be prioritized to identify, apply protection to or replace pipeline in those areas that have the greatest potential for hazard in an expedited manner.

Q. Okay.

A. And some operators chose to protect, which means they applied protection to all pipes. But my understanding, Laclede chose not to do that, and instead of protecting pipe, just replaced the pipe.

So our whole idea was, you go out there, you look at your system, you find out what is the -- any problems and replace that first. Also we went to places where it is high pressure, high pressure near buildings, high pressure near businesses and schools. Those would be a higher priority.

Q. I understand. Now, how many levels of high property do you have in that rule?

A. Well, there's -- I don't know how many levels of priority, but there's like six sections in there.

Q. Six sections?

A. Yes.

Q. Can you give me a general idea of what each of those sections are?

A. High pressure unprotected steel pipelines

located beneath pavement.

THE REPORTER: Wait. Slow down, please.

BY COMMISSIONER CLAYTON:

Q. And you don't have to read the rule, just give me a general idea.

A. Pipeline located beneath -- high pressure pipe located beneath pavement, unprotected steel pipelines near schools and businesses and things.

Q. That's No. 1?

A. That's the second one.

Q. Okay. Second one.

A. Third one is areas where there's extensive excavation or blasting or construction near the pipeline. The fourth one is sections that lie in areas of planned future development. We wanted the company to be proactive, if you see a sewer project --

Q. Before it's there?

A. Before it's there. We'll get out -- while that project's going on, get the old pipe out so you don't have to go back and tear up new road.

Section 5, if you have a steel pipe that, you know, a history of leakage, obviously, and Section 6, unprotected steel pipes subject to stray currents.

Q. Say that last one again.

A. Subject to stray currents.

Q. Stray currents. What is that?
A. The way you protect pipe -- protect -- we were talking about protected and unprotected pipe. Cathodic protection of pipelines, you apply a current on to the pipe to keep it -- to keep the pipe from corroding. Stray current may be from other pipelines, from like, I understand, maybe even from the light rail system or from other things like that. There may be some stray current that would get on the pipe and when that current goes off the pipe, it caused corroding.
Q. Okay. And which of those levels of priorities are the piping that we're discussing here today, which levels do they meet within that rule?
A. Well, there again, that's getting to more specific -- one of the other Staff members may be better, but my understanding is the piping under the pavement and those higher priorities have already been replaced.
Q. I understand that's in the past, but as we look forward, when we're talking about 10,000 feet per year, what type of piping are we talking about that falls under that priority list?
A. I think we're getting closer to -- someone else, other Staff would better off to answer those questions more specifically for you. I mean, we can bring them up here, can't we?

Q. And my next question is going to be right out of the Staff rec, and let me just read it to you, and then you tell me if you can answer it or not answer it.

A. Like I said, on the steel program, Mr. Kottwitz would probably be better off to answer these questions for you, because he's the one that actually developed the rec.

Q. That's fine. I'm going to ask the question, so if you don't know the answer, then maybe we ought to get the person up here. I wanted to try before you --

A. All right.

Q. -- said that you didn't know.

It says Laclede has 88,000 feet of main out of 129,000 total footage that met the criteria in paragraphs (15)(E)3 through (15)(E)6 at the end of fiscal year 2002, and these mains would be replaced by the end of fiscal year 2011 at an average rate of 10,000 feet per year. Okay?

A. Okay.

Q. My question is, what criteria are those 88,163 feet of main -- under what level of priority are they in the rule, is my question?

A. Well, the highest priority we had was the stuff beneath continuous pavement, and the pipelines near the schools and businesses and things like that. So that's

already been done. So the 3 through 6 would be the -- where there's blasting occurring, the planned future development, the -- where there's a history of corrosion or where there's stray current.

So what we believe the higher priority was next to buildings and under pavement and with corrosion history has been done. So the other three, the other -- those 3 through 6 are the blasting areas, the areas of planned future development, sections of exhibited leakage history or subject to stray current.

Q. Okay. That leak history, is that sub 6 or sub 5?

A. 5.

Q. I'm trying to get an idea of what type of pipe, as we look forward, that we're talking about replacing, why it is being replaced and how that relates to the rule.

A. There again, the leak surveys is where we find the leak. The leak survey is done. We find leakage on those pipes, then that -- that's how you'd prioritize it for leakage, for replacement is the leaks you find, where you find the leaks in the pipe. So that's the area that would be targeted for replacement.

Q. So is it safe to assume that 88,000 feet of main has -- leaks have been detected on that, is that what

you're saying?

A. I don't know the exact. We're getting to the point to where John may be better off to talk to you about that, I think.

Q. I'm trying to get a handle on the safety issues of the pipe that is to be replaced as we look forward, not going backward. I don't care what's been replaced in the past. I understand that the highest of priorities have been dealt with in the past. But as we look forward, what type of hazards would be associated with those pipes? Obviously there's some hazards, or we wouldn't be replacing them, correct?

A. There's -- the -- trying to get rid of those pipes, there's no cathodic protection on them, so there could be some corrosion on them. So we find that that's how the leaks are raised, we find that and we replace those, yes. So there's a certain amount of hazard associated with them, yes.

Q. Are you aware of how much feet of unprotected piping that Laclede has remaining in their system?

A. I don't have that up here with me, no. We can answer those questions if you want someone else to come up here. We can easily answer them.

Q. I don't want --

A. I mean, that's the -- the unprotected steel

main case, we brought another Staff member to come up here because he had actually done the Staff recommendations on that and has done the research on that. So if you have specific questions on that, we can answer those questions easily by bringing him up here.

Q. Before I let you go -- I understand. Before I cut you loose, do you have any idea of whether or not, by making this change in the replacement program, the reduction in the cost to the company in the replacement program, do you have any idea of the dollar amounts --

A. No, I do not.

Q. -- that would not be expended?

A. No, I do not.

Q. When you and your Staff do analysis, is it based on safety and economics and cost? What criteria do you-all look at in general?

A. Primarily safety. I mean, the cost is an issue that we have -- we think about, but primarily our issue is safety. If it's something that needs to be -- it's a hazard, we need to get it out of the ground or do something, we do that. We don't not do something because we -- we don't find something that we believe to be potentially hazardous and don't do it because it costs too much, no. Our primary concern is safety.

Q. And I think your testimony is that there

is no difference in safety whether the company replaces 10,000 feet per year or 20,000 feet per year?

A. At this point, we believe it's appropriate for them to reduce that number from 20 to 10. We don't believe it would be an issue, a public safety issue that the safety would be reduced, no.

COMMISSIONER CLAYTON: Okay. All right. Thank you very much.

JUDGE RUTH: Just a moment. I want to make sure I understand.

QUESTIONS BY JUDGE RUTH:

Q. Staff believes that there's no reduction in safety from decreasing from 20,000 to 10,000?

A. Correct.

Q. And is that because the ones that are leaking are -- have already been replaced or you replace them quite quickly when they're found, and so now -- now Laclede is down to the ones that have been checked about every year for the bar hole surveys and have been found not to be leaking?

A. There's not a bar hole survey on the unprotected steel mains. There's just a leak survey is run over only, but the idea they have been out there for a long time, they haven't leaked, we believe we've gotten the worst -- with active-type corrosion out there, out of the way, we don't believe there's a -- wouldn't be a reduction

in safety by replacing -- going from 20 to 10 at this point in time. It's a maturing program.

Q. Thank you.

JUDGE RUTH: And, Ms. Shemwell, when Mr. Leonberger came to the stand, you were not given an opportunity to ask any questions. Do you have any that need to be asked at this time before we move on to cross?

MS. SHEMWELL: I would just like to ask a couple of clarifying questions if I may.

JUDGE RUTH: I meant the introductory-type questions.

MS. SHEMWELL: Oh. Would you like me to do that now? I just have two redirect.

JUDGE RUTH: Well, we're going to move to cross of this witness. When we brought Mr. Leonberger up, I asked him to state his name, but I did not give you an opportunity to ask him where he works, those questions.

DIRECT EXAMINATION BY MS. SHEMWELL:

Q. Mr. Leonberger, you spelled your name for the record?

A. Yes.

Q. Where do you work?

A. Missouri Public Service Commission.

Q. What do you do for the Commission?

A. I work -- I'm assistant manager in the

pipeline safety area.

Q. Are you familiar with Laclede's pipeline replacement programs?

A. Yes.

Q. And have you supervised the Staff who has filed reports and made recommendations in those cases?

A. Yes.

MS. SHEMWELL: Thank you.

JUDGE RUTH: Thank you. Then we'll move to cross-examination of this witness. And, Public Counsel, do you have any questions?

MR. MICHEEL: No.

JUDGE RUTH: And Laclede?

MR. PENDERGAST: Just a few, your Honor.

CROSS-EXAMINATION BY MR. PENDERGAST:

Q. Good morning, Mr. Leonberger.

A. Good morning, Mike.

Q. You were asked a number of questions about the surveys of our copper service lines and what, if anything, had changed since the Commission's pipeline safety rules were revised, I guess back in 1989, and I just wanted to follow up on that.

When the company surveys copper service lines, do they use a different kind of technique than you normally use when you're surveying a standard line?

A. Yeah. I mentioned in passing that we -- that the survey was done directly over the point we believe the corrosion occurred that we were addressing. It's called -- that is called a bar hole survey. Normally the leak surveys are done with a hand switch. You just walk over the line and the sample is taken and leaks can be detected.

In this particular case, the maps of the area are of -- the location of the pipelines are known to the people who are going out there, and a bar hole, which a hole is put down in the ground -- try to put down over the ground right over the tap to the main where we've been finding the corrosion, and then an instrument is -- probe is put down in the ground in that hole to try and sample the atmosphere in the ground as near as we can or near as can be to the point where we believe the corrosion is occurring. So we believe it is a very sophisticated, very specialized survey that would find very small leaks before they become a problem.

Q. And would it be fair to say that that, in addition to being more sophisticated, is a more intrusive kind of survey than your standard?

A. It takes a lot more time, it takes a lot more effort, and we believe that it can find leaks that are minor -- smaller leaks before they -- than the leak survey.

Q. And those requirements would be in excess of what's in the Commission's safety rules --

A. Yes.

Q. -- for leak surveys --

A. Yes.

Q. -- and other sorts of facilities?

And can you also tell us when a leak is found on a copper service line, how quickly that leak is replaced or repaired?

A. It would depend on the pressure district. The higher pressure lines are quicker, but I think that the -- my recollection is that the average time for replacement of a copper on the Pressure District 1, with a higher pressure was, like, 3 or 4 months, and for the lower pressure ones it was -- Pressure District 2, it was 7 to 9 months, I believe.

Q. Okay. And can you tell me typically under the Commission's rules, if you find a Class 3 or Class 4 leak, how long you have to go ahead and replace that or repair it?

A. A Class 3 leak, it would be -- we would have 5 years.

Q. And did you indicate that since the copper service program was initiated that there's been a significant reduction on a percentage basis in leaks being found on those?

A. Right. The -- the percentage of leaks has declined, not numbers, but -- well, numbers also, but percentages on the number of lines, the percentage of leaks

found on the number of lines left out there has decreased, yes.

Q. And just to make clear, that means on a proportionate basis, even though you have fewer lines, that's more than just an absolute decline based on fewer lines?

A. It's a percentage decline, right, of the lines that are surveyed that are left out there.

Q. And it's also your understanding that there's also been a significant decline on the number of leaks experienced on the unprotected steel main that's in the ground today --

A. Yes.

Q. -- compared to what was in the ground 10, 20 years ago?

A. Yes, significant decrease.

Q. Are you aware of, based on your knowledge -- and you do have experience with national groups and that type of thing, do you not, Mr. Leonberger --

A. Yes.

Q. -- when it comes to safety?

Are you aware of any other programs in the country that have been adopted by a state regulatory agency that are more comprehensive and contain, if you will, more safety-related requirements than the copper service program

that is in effect here in Missouri?

A. The copper program, no, I'm not aware of anyone that is requiring a bar hole survey to be done and a comprehensive program of replacement copper. There may be other copper replacement programs, but I'm not aware of one that's required to be done in the percentages and the requirements for repairing the leaks as quickly as they are repaired and the type of specialized survey that's run with them, no.

Q. And would the same thing be true as far as the unprotected steel main program is concerned?

A. We were -- there may be some now, but we were the -- at the time we -- that the rules were written back in '89, I don't think there's any other requirements for replacement of unprotected steel or copper or cast iron at that time, no.

MR. PENDERGAST: Thank you. I have no further questions.

JUDGE RUTH: Thank you. Based on the cross-examination, do the Commissioners have any additional questions?

COMMISSIONER CLAYTON: Just very briefly.

FURTHER QUESTIONS BY COMMISSIONER CLAYTON:

Q. In the Staff recommendation, it says Laclede submits that replacement rate of 10,000 feet for the final

phase of the replacement program can be established without compromising public safety. And you agree with that assessment?

A. Yes.

Q. At what point, if any, would you believe that there would be a compromise of public safety in the reduction in the amount of footage being replaced, or would there be? There may not.

A. Well, first of all, we have our routine inspections. We go out there and look at them, but we also, at the end of the year, look at the number of leaks on all types of pipe to see what the percentages are and what the leaks -- what the rates have been. If we detect that those rates aren't declining or are increasing, then we would say this isn't working.

Q. Well, in this specific case, with the information and the data that you have regarding the Laclede piping, at what point would it be too few -- I'm trying to get an idea of how you judge that.

A. I don't have a number. What I'm saying is, we would review the number of leaks that are found, like, next year. Say if they started doing 10,000, we would review that number. If those numbers aren't declining and start to go back up, then we would say, this is not -- this is not the right number. It's not working.

Q. Was the --

A. I don't know -- I can't say 5 or 6, but I mean, that would be what we would do.

Q. Well, with your investigation in the past, were you-all able to -- with past reviews and past investigations, were you-all able to determine at what level there would be a compromise of public safety? I know what you're saying, looking forward now, kind of, but in this case --

A. I guess our review has more been not so much -- well, there are certain criteria that I think Laclede would have when they replace pipe, what -- how many clamps or how many leaks per certain number of feet, but our look is, if the decline continues, we're looking more on the number of leaks, which we believe is kind of gauge of the safety, are declining. That's what we look at.

Q. And can you give me an idea of how this program compares with other companies around the state?

A. All the companies are required to have unprotected steel main replacement programs. Some of them are replaced -- I guess, first of all, they're all different. Laclede replaced a lot of unprotected steel mains prior to this program, our rules being in place.

So there may have been a different point in time in 1989 when the rules went into effect, other

companies were, but all the companies are required to have unprotected steel main replacement programs.

Q. In comparison with those companies, is this in line with what other companies are doing, is Laclede ahead of schedule, behind schedule?

A. I think in their case they were ahead of schedule, because they replaced a lot of the steel mains they'd identified before the program started. So they had already addressed the problem before our rules addressed the problem. So I think they were ahead. They'd already replaced pipe that was corroding before.

Q. They addressed the more serious --

A. Right.

Q. -- pipe problems early?

A. So --

Q. Is what you're saying?

A. So if you took a snapshot in --

Q. That's what you're saying?

A. Yes.

Q. They addressed the more serious and problematic leaks and piping at an earlier time than any other company?

A. Right.

Q. Is that what --

A. So they took a snapshot in 1989, then they

were basically ahead. They had what they had in '89, but if you looked back a few years, they had already started.

Q. Okay. Well, they started earlier. Today, today's snapshot in time, are they ahead of schedule or about equal with everyone else or do you have any idea?

A. I think that they're -- they're -- it's hard to say because they're all so different, but I think they are as good as any of the other ones we have, yes.

Q. What does that mean --

A. It means that --

Q. -- they're as good as anybody else?

A. It means that it's all different. Some people are replacing pipe. Some people are protecting pipe. I believe they're good as any of the ones we have, yes.

Q. Okay. So you can't tell me whether today this is ahead or behind of schedule than any other company? It's as good as any other --

A. I don't know how -- there's no way to really compare them, I don't think.

Q. I asked you before about the more serious piping being fixed earlier by Laclede, about them being proactive. Do you recall that?

A. Yes.

Q. How would you rate the level of seriousness with the piping that remains to be replaced?

A. Well, we're recommending that -- we don't believe there's a serious -- there's a problem because we're recommending the rate be reduced. Well, not reduced. We're recommending that you agree to a schedule that would be 10,000 feet, so we believe that there's not the hazard out there or we wouldn't be coming before you and agreeing with Laclede.

Q. Why replace them at all?

A. There needs to be a continuing program, because if there's not continuing program, then we would not be addressing the leaks we find. So we believe that the rate that's being suggested would address the number of leaks, the leak rate that's being found at this point on the system.

Q. And you don't have that information of how many leaks are being found?

A. I think had --

Q. I think you mentioned that the other Staff person was going to testify?

A. They can if you want, but I mean, I just know that the number of clamps put on the pipes has gone way down and the percentages have gone down. I don't have that in front of me right now, no.

Q. Is there a formula, you know, number of clamps, number of leaks that would get us to 10,000 feet per

year?

A. I mean, no. No. Well, I don't have one. I'm not sure what the replacement -- how many leaks per -- clamps per foot there are right now that we're replacing. But to answer your question, I know --

Q. If Laclede would have come in and said, we want to do 5,000 per year, what would Staff have said?

A. I don't know.

Q. Well, if it were 1,000 feet per year, what would you say?

A. Probably no. We believe 10,000 is -- I guess I believe 10,000 is appropriate. Do I believe 5,000's appropriate? I don't know. I believe 10,000 is appropriate.

Q. Is there a timeline for how long a pipe must age before it becomes a higher level of seriousness?

A. No.

Q. There is no set amount?

A. It depends on environmental factors. I mean, a piece of steel pipe, it may not be -- depends on soil types and where it's located. A piece of steel pipe you could put it in and it could last for a long time. In areas of stray current, a piece of pipe could leak in a year. So there's no real age. Age can have an effect, but it's more the environmental conditions.

That's why we believe that the leak surveys that have been run over a long time, the environmental conditions that would be more conducive to that kind of corrosion have been taken care of, because we're not finding that leakage. And it's not like an -- at age 10, 20, it gets worse and worse. It depends on the environmental factors.

COMMISSIONER CLAYTON: Okay. Thank you.

JUDGE RUTH: Okay. Ms. Shemwell, if you have redirect, you may do so, or Mr. Berlin. Excuse me.

MS. SHEMWELL: Thank you.

REDIRECT EXAMINATION BY MS. SHEMWELL:

Q. Mr. Leonberger, is there currently in place a Commission-ordered steel line replacement program for Laclede?

A. Unprotected steel mains?

Q. Yes.

A. They're required to replace unprotected steel mains, yes.

Q. Is there any --

A. In a priority. But there is no schedule in place, but there is a program that they are -- they are doing.

Q. So you're saying at the present time there's not a specific number of line replacement that's already

ordered by the Commission?

A. Correct.

Q. When was the last time that there was such a Commission order? Do you agree with me it's about '95?

A. I was going to say '98. I think it went through in '98, was the year it went through.

Q. Are you -- I apologize. This is kind of a complicated area and I don't know how to really ask this without being leading. But we talked about the causes of corrosion, road salts, that kind of thing, right, as potential causes of corrosion. Perhaps someone fertilizes their yard. But based on those, has Laclede been able to identify specific areas to target? In other words, I guess I'm asking, is it a uniform problem in cities where road salts are used and not a problem in other areas?

A. We tried to identify those areas of more -- identify certain types of corrosion or areas, soil types, cities, but we really -- we really couldn't do that, so the idea would be to find the areas where -- by these sophisticated surveys where we're finding the leaks, when they find a leak in a certain area, then that area would be scheduled for replacement.

Obviously if the leakage rate is 1 percent and we're replacing 10 percent of the lines, then we identified the areas of corrosion and replace that whole area way ahead

of the leakage rate.

Q. And if I may ask, it's correct that you, the Staff, is recommending a level that they believe stays ahead of the problems?

A. Yes.

Q. That's why they recommend a specific level?

A. In both cases.

MS. SHEMWELL: Thank you.

JUDGE RUTH: Okay. Now, Staff, some of the questions that were addressed to Mr. Leonberger he indicated might be better addressed to another witness. So at this time what I'll do is I'll ask Mr. Leonberger to step down, but you're not excused.

And, Staff, do you have a different witness that can come and answer some of these questions?

MS. SHEMWELL: Yes. Staff would call Mr. John Kottwitz to the stand.

(Witness sworn.)

JUDGE RUTH: Could you speak into the microphone. What was your answer?

THE WITNESS: Yes, I do.

JUDGE RUTH: And would you state and spell your name for the record? And you may have to speak up a bit or else adjust.

THE WITNESS: John Kottwitz, K-o-t-t-w-i-t-z.

JUDGE RUTH: Thank you.

JOHN KOTTWITZ testified as follows:

DIRECT EXAMINATION BY MS. SHEMWELL:

Q. Good morning, Mr. Kottwitz. Where do you work?

A. Missouri Public Service Commission.

Q. What do you do for the Commission?

A. I'm a staff engineer.

Q. And what department?

A. In the gas safety section.

Q. How long have you worked in gas safety?

A. Since 19-- in the gas safety at the Public Service Commission, since 1986.

Q. Did you say '86?

A. Yes.

Q. What did you do prior to that?

A. I worked for Northern Illinois Gas Company for three years after graduating in 1983.

Q. And what is your educational background? What's your college degree?

A. Engineering.

Q. Mr. Kottwitz, did you prepare a recommendation in Case No. GO-2003-0506?

A. Yes.

Q. And specifically what does your recommendation

address?

A. The application by Laclede Gas Company regarding the completion of their bare steel replacement program -- unprotected steel replacement program. Excuse me.

MS. SHEMWELL: Thank you. I don't have any other questions at this time.

JUDGE RUTH: Thank you. Mr. Chairman, do you have any questions that you want to ask this witness?

CHAIRMAN GAW: Oh, I guess. Thank you, Judge.

QUESTIONS BY CHAIRMAN GAW:

Q. There were a lot of questions deferred to you. I'm sure you wrote every one of them down, too.

A. No, I didn't.

Q. Can you give me your rationale for why the 5,000 -- excuse me -- the 10,000 feet reduction in the replacement program on steel mains is appropriate? How did you get to that number? Where did that number come from?

A. The number came from Laclede Gas Company in their application. They provided an application with their reasoning behind it. I reviewed that and agreed with their reasoning.

Q. All right. Now, tell me what your rationale is for getting to that number.

A. I don't have a specific rationale. They began

with over, like, 3.4 million feet of unprotected steel main back in the '50s. They replaced 3 million feet of that prior to this program. They replaced -- since then have replaced like another 270,000 feet, to where they have 129,000 left. They started out with doing replacements per year as high as 140,000 feet. In the '70s it was like 40,000 feet. Then we went down to 30,000.

You know, basically the program was pretty well done when we wrote the rule and asked them to submit a program for the Commission approval. So basically in '91, they were already done. They came to -- the Commission required them to look at -- submit a program for what they had left if it met any of those categories.

They still had mains that had experienced some corrosion on it, had some leakage and had clamps on it. They submitted their program and 30,000 feet a year for the first five years, completed that and the leakage levels even dropping faster, and went to 20,000 feet for the next three years, and then they've not had a schedule since then.

So it's the logical progression down to 10,000, it makes sense. And their leakage rate supports that, and clamp rate.

Q. Okay. Tell me what that rate is and how it supports it. Tell me the relationship between the numbers of reductions in what's been found as leaking and the

rationale for this to be at 10,000 feet per year.

A. There's not a specific rate. They have the -- their actual experience and what they found. There were graphs attached to their application that shows that rate reducing. As Mr. Leonberger mentioned, that's what we're looking at, that rate to continue on --

Q. What is that rate?

A. If you look at the graph at the back of their application, I mean, their leakage rate and clamp rate is just -- is on a direct line down, and it's continuing to go down even though we're replacing --

Q. What is that rate today?

A. I can't give you a rate. I can show you on the graph. The clamps are going down to a very small number, I think maybe like to maybe 30 clamps, the last few years.

Q. What's that mean, 30 clamps? What's a clamp?

A. They go out to a leak site and put a clamp on it to do a leak repair.

Q. And what does that mean, put a clamp on it?

A. A leak repair clamp?

Q. Yes.

A. That is a repair fitting that you would install onto the main so it doesn't leak anymore.

Q. All right. And does that fix the problem?

A. That specific problem, yes. Once they put the clamp on it, then there is no leak at that site anymore.

Q. So do you have to replace that main after you've fixed it with a clamp or is that considered repaired and no need to replace the main?

A. That leak is repaired, correct, and the replacement program then is driven by the mains that have experienced corrosion in the past, have had a clamp put on them, those are the mains that they're replacing under this program.

Q. Okay. So --

A. There's no leak at that site currently, but it's a main that has experienced a leak, so --

Q. So it needs to be replaced?

A. -- we're going to say, that's a main that we're going to consider replacing.

Q. That's a priority replacement?

A. Right.

Q. So I'm looking for the number comparison in the leakage found now compared to what it was during the time frame that -- when it was at 20, and then maybe when it was at 30 so I can -- you're saying there's a graph. I don't know what -- I'm trying to get from the Staff what numbers did you refer to in -- in your analysis to come to the conclusion that Laclede's request was -- was

appropriately -- appropriate to grant?

A. As Mr. Leonberger referred to, I mean, we're not looking at the specific number. We're looking for the leakage rate to continue going down, and it has gone down.

Q. I'm still trying to find out what that is, though.

A. We reduced from 30,000 to 20,000, the leakage rate, the number of clamps per year has continued just on a direct line down.

Q. Number of clamps per year on the whole system or per foot of the system? When you say that, tell me what you mean. I need to understand what you meant.

A. They have it both ways. They've shown me where they have, like, leaks -- clamps per 10,000 feet, this many clamps per year. They have it both ways. I've looked at that data. I don't have that to tell you off the top of my head. Laclede would be the best source for that information.

Q. So you don't know?

A. I've seen it. I've looked at it. I don't have it in front of me.

Q. And when you say it's per 10,000 feet, is that per 10,000 feet of line that has not been replaced or of system steel main line? What does that mean, that number?

A. It could be either way. It's however they

developed the data. I mean, it's not my data. It's their data.

Q. I know, but it's your analysis --

A. Right.

Q. -- and I'm trying to understand how you got to your conclusion.

A. And again, it's their application, their analysis, their conclusions that I'm agreeing is appropriate. It's reasonable. We use -- we replaced all the main before we even got to this program at -- the number I've heard is like 140-some-thousand feet per year in the -- at one point in time, and then we -- it reduced down to, like, in the '70s, like '80s, I think, it came down to, like, 40,000 feet a year.

And then we came down to 30,000 for the first five years. That's actually under the Commission-approved program. Then they dropped to 20,000 for three years, and then the last few years there has been no actual amount per year. I've heard that referred to, but there is no actual schedule. They're not required to do 2,000 currently.

Q. Or 20,000?

A. 20,000. Yeah. Excuse me.

Q. Do you know how much they have been doing?

A. They agreed to continue at the 20,000 rate, even though it's not required, and have done so up through

the time of their application. Now, their application was through, like, a year -- I mean, that's been some time ago, so --

Q. You don't know what it is now?

A. -- through the past -- previous fiscal year.

Q. You don't know what it is this fiscal year?

A. I don't know what they've done this fiscal year. Laclede would know that. But they've continued -- until they made this application, we asked -- we agreed that they would continue at the 20,000 rate until they came back in and asked for a different amount. And now they have come in and asked for a different amount.

Q. And if they continued at 20,000, when would the program be done again?

A. If they continued at 20,000, well, there was 130,000 and another fiscal year ago, so you can divide that by 20,000. There's been another year of replacement since then, though.

Q. We're doubling the number of years out before the line is completed, all the line is replaced?

A. The remaining -- well, since there is no schedule currently, I guess if you assume that they would continue going at 20,000, I guess, you could say obviously 10,000 would be -- take twice as long. They don't actually have a current amount they're required to do.

Q. Is it Staff's belief that all of this line eventually needs to be replaced or not, all of this steel line?

A. The rule itself doesn't require it all to be replaced. It doesn't even require it to be replaced. They could cathodically protect it, use cathodic protection instead of replacement, under the regulation.

And they're only required to address those unprotected steel mains that meet those six categories we were discussing a while ago. If you have -- in fact, some of their main that they have now, like 40,000 -- whatever it is, like, 40,000 feet of that remaining main, does not meet any of those categories. It's not required to be replaced and we wouldn't require them to replace that over and beyond what the Commission's regulations requires.

Q. Is that 40 in addition to the number that you gave me?

A. No. That's out of 129,000. The numbers are here. I can give you the exact numbers right out of the recommendation.

Q. I think Commissioner Clayton is pointing it out to me, so that's not necessary.

A. It's like 88,000 out of the 129,000 at the end of a fiscal year ago, so that's not the current numbers. That's as of their application and my Staff recommendation

on their application.

Q. Are you familiar with any of the other replacement programs for line in Laclede's area?

A. I'm familiar with them.

Q. I mean specifically familiar with them or just have some vague notion of them?

A. I'm most familiar with their cast iron program, but I don't --

Q. Tell me about that, why don't you. What's going on with the cast iron program?

A. They're continuing under the program that they have filed before the Commission.

Q. Do you know what that is? Do you know what that rate is of replacement?

A. It varies under the specific requirements of that program.

Q. Okay. Is there a need to do more on that program or do you believe it's at the right level currently, if you have an opinion?

A. I believe the program is working well as it stands today.

Q. So you don't think there needs to be any more emphasis or resources placed on the cast iron replacement program?

A. In my personal opinion, no.

Q. What about the copper replacement program? Is there a need for more resources in the copper replacement program?

A. That's the case I'm less involved with.

Q. Any of the others that you are familiar with?

A. The unprotected steel service line replacement program, they have a program for that also.

Q. Tell me about that, if you would.

A. They had a waiver that allowed them to replace under the conditions of that waiver, and then they have a current program where that's -- the remaining bare steel service lines are replaced by the end of 2020.

Q. And what is the waiver that they have, that Laclede has?

A. It's not in place anymore. It's been replaced by this new agreement in the copper service line case to replace all remaining lines by 2020.

Q. No matter -- all remaining what kind of lines?

A. Unprotected steel service lines. The unprotected steel main lines is the subject of --

Q. This case?

A. Right.

Q. One of the cases?

A. The 10,000 feet per year.

Q. Is there a need for more emphasis on those

unprotected steel lines, not the main lines, but these other?

A. No. In fact, we lessened the amount that they were doing of those so that we could take those -- shift the emphasis to the copper service lines.

Q. When was that done again?

A. It was done in the Stipulation & Agreement of that other case we're discussing today on copper service lines. I believe it's GO-99-155.

Q. Do you know when that agreement was, though?

A. No, but there are --

Q. It's on record. I'm just asking if you know.

A. Right. There's other people here who would know.

MS. SHEMWELL: Shall I hand him a copy of the agreement?

CHAIRMAN GAW: Whatever helps. It's on the record. I don't think it's necessary.

BY CHAIRMAN GAW:

Q. Do you know anything about the copper on steel or steel on copper lines?

A. Just what Mr. Leonberger said.

Q. Nothing yourself, though, other than what he's testified to?

A. We've basically had the same experience and

know about the same amount.

Q. There is no program to replace those lines that's in effect?

A. No.

CHAIRMAN GAW: I think that's all I have. Thank you.

JUDGE RUTH: Commissioner Clayton?

COMMISSIONER CLAYTON: Thank you.

QUESTIONS BY COMMISSIONER CLAYTON:

Q. You clarified a number of the questions that I had --

A. Okay.

Q. -- in the interrogation prior to this, but I wanted to ask a few more questions and make sure that I understand. There is only 129,773 total footage left to be replaced?

A. That was at the end of fiscal year 2002. There's been another amount replaced in fiscal year 2003.

Q. Okay. So we're talking that there's even less that needs to be replaced?

A. That would be correct.

Q. At the end of 2002, 88,163 feet of main met the criteria in paragraphs (15)(E)3 and -- or (15)(E)3 through (15)(E)6. Generally speaking, do you know what criteria that 88,000 feet -- I mean, is there -- basically

is it that they've been clamped or there's been a leak, are there other things that would jump out in your mind in that 88,000 feet?

A. Laclede would know the exact answer, but I -- it's my understanding that most of that would be -- have exhibited a history of leakage or corrosion --

Q. Okay.

A. -- the fifth criteria.

Q. You also testified that there was -- there wasn't necessarily anything magic about the 10,000 feet replacement per year, that basically that was the proposal that Laclede made and you accepted their figures after doing your analysis and agreed that it's okay?

A. That's correct.

Q. When you determined that it's okay, you look at leak rates on your graph, correct, the decline in leak rates?

A. Yes.

Q. You look at the decline in the clamp rate. You testified to that; is that correct?

A. It was in their application, yes.

Q. Okay. What other things do you review in determining that that 10,000 feet is okay, that 10,000 feet per year was acceptable?

A. There's not a lot of other things to review.

It's kind of subjective, but the history shows that they've been reducing by -- the amount that they replace per year is reduced from, like, in the neighborhood of 140,000 feet per year down to 20,000 feet on a progressive level, and the leak rate, the clamp rate has continued to go dramatically down. So it would stand to reason that it would continue going down, even if we reduced the same level again.

Q. Okay. Are you able to make a determination on the level of seriousness of a pipe that needs to be replaced or a level of danger, hazard, anything like that? You kind of seemed to speak in terms of trends and a review of past performance, but in terms of present-day piping, do you rate levels of hazards or piping that would be at risk for a hazard?

A. Basically, the leak surveys are done annually, so we're doing a survey over those pipes annually to see if there's new leaks that have developed. And those are classified and those -- they also agreed, if this application were approved, to continue to -- they would actually make annual reports to the Staff of the leaks that they -- occur each year and we would be able to monitor that also.

Q. Okay. You also mentioned earlier that Laclede is voluntarily replacing in the past few years 20,000 feet per year without an Order of this Commission?

A. That's correct.

Q. Okay. And, I guess, do you know whether -- does the Commission have the ability to order them to continue replacing 20,000 feet per year?

A. That's not a question -- I guess that's a question about the author-- what the Commission's authorized to do. That's more of a legal question. All I know is they applied to do 10,000 through the remainder of the program, and I recommended that they be allowed to do that. I think the Commission can do what it's authorized to do.

Q. How did -- and you may not have been here long enough, because I'm not sure. When did you come to the Commission?

A. In '86.

Q. '86, so you've been here through --

A. Yes.

Q. -- implementation of the rule, you've been here.

Okay. When the -- when the program that ended, I believe, in '98 ran out, they were doing 20,000 feet per year by order of the Commission?

A. Correct.

Q. Was that order instituted by Staff or by Laclede, do you know, that case that concluded with an Order requiring 10,000 feet per year?

A. The -- their program was submitted to us with the 30,000 feet originally, and then they changed it to 20,000. That was by Laclede with our agreement.

Q. Okay. So it was reduced, but the case was originated by Laclede or by Staff?

A. The case was originated by the regulation in 1989 that required them to submit a replacement program. Like I said, they were already doing replacements on their own, without even having a rule. They did most of the replacement without a rule, but the rule required them to actually submit a program, which they did, and that's -- was submitted by Laclede in accordance with the Commission's rules.

Q. Last question on this subject, but when the last program ran out in 1998, why did it take -- do you know why it took three years, four years to get another order in place or another agreement between Staff in place for this program?

A. Not specifically. When they agreed to continue doing the 20,000 feet even without a Commission-ordered schedule, it was -- you know, they probably could have asked for a lower amount at that time, but so the -- you know, since the leak rates were doing well, there was no reason for us to come in and ask for them to do something other than 20,000. If they wanted to do

less than 20,000, they needed to come in, and they have now at this time.

Q. Would it be fair to characterize basically there was just an informal agreement that they were going to continue doing what they were doing?

A. Right.

Q. Were they submitting any reports to Staff during that time?

A. Yes, they annually give us a report on how much they've replaced each year.

Q. Okay. Under this agreement for the 88,163 feet that have had some problem or some indication of a need of replacement, they meet the criteria (15)(E)3 through (15)(E)6, according to this agreement, it will take, at 10,000 feet per year, eight or nine years roughly to replace that piping. Correct?

A. Correct.

Q. I know there wasn't supposed to be any math, but basic math.

A. It's in their application, the exact years.

Q. And the 88,000 feet would be replaced by the end of fiscal year 2011, and the remaining amount of pipe would be replaced by 2015. Does that sound correct?

A. That's if the remaining pipe did, in the future, develop a situation that caused it to meet the

criteria, yes.

Q. Okay.

A. It may -- if it does not leak or meet one of the other criteria, it would not be replaced.

Q. Okay. So we're talking -- we're at the end of 2003, so we're going to be looking 8 years to complete one program, and possibly 12 years to completely replace the piping.

Is it your testimony here today that there is no reduction to the public for public safety by making that time period twice as long than what it would be as if they were continuing to replace 20,000 feet per year?

A. I guess it would depend on how someone defined that. Their application to do 10,000 feet is going to continue having a lower -- based on past history, we believe the leakage rate will continue to decline and there will be a similar level of safety.

Q. So with your criteria and your experience, your expertise, it's your testimony that there is no reduction in public safety by agreeing to a doubling of the amount of the time to replace these pipes? You believe there's no reduction in public safety?

A. They have a -- submitted a program that I believe will continue to allow the leakage rate to decrease, and I believe that will provide for public safety.

Q. So you believe that there is no reduction in public safety?

A. Compared to their current program, that's correct, their past program.

COMMISSIONER CLAYTON: Okay. Thank you very much. Thank you, Judge.

JUDGE RUTH: Thank you. We have been on the record for just over 90 minutes, so we're going to take a 10-minute break. Based on the clock in the back, that means we would start back up at quarter 'til. So we're off the record briefly for this break. Thank you.

(A BREAK WAS TAKEN.)

JUDGE RUTH: Back on the record. Right before we took a quick break, Commissioner Clayton was asking questions. Do you have any additional questions?

COMMISSIONER CLAYTON: No, I don't think so.

JUDGE RUTH: Okay.

CHAIRMAN GAW: I do have a few more questions.

JUDGE RUTH: I'll just remind you that you're still under oath.

FURTHER QUESTIONS BY CHAIRMAN GAW:

Q. I'm pulling out the graphs in the application, if you have it in front of you. First let me ask you, is there a difference between bare steel main history and unprotected steel main history? Is there a difference

between bare steel and unprotected steel?

A. The difference would be whether it's coated or not. There are some -- you could have a coated steel main that's also unprotected. So our program would apply to all unprotected steel mains, whether they're coated or bare. The vast majority of those are bare, though.

Q. Okay. And I notice in the graphs, there's some of the graphs, in addition to having changes in what's on the -- on the Y or X's is different, but also the title is different. Exhibit 1 refers to unprotected steel main repair history. Exhibit 2 is 2-inch and 1 1/4-inch bare steel main history.

And then 3 is about 2-inch and 1 1/4-inch unprotected. And then 4 is about bare steel main history on these exhibits.

So I'm not sure how that -- as I'm going through them, there are other things changing also in addition to the titles. It makes it a little more difficult for me to understand how to compare them. So it sounds like one is a subset of the other anyway?

A. It could be. I think Laclede may be using that interchangeably on these graphs, but you'd have to ask them, because I don't think they have very much of their unprotected steel mains that are coated.

Q. Okay. You don't know the answer to that at

this point?

A. Yeah, right. That's correct. This is Laclede's graphs and data.

Q. Okay. So when you're saying you're basing your conclusions on these graphs, you don't know whether or not these titles are subsets of one another, if they're -- if it's interchangeable, you didn't know that when you made your recommendation?

A. I believe they're being used interchangeably, because the portion of the unprotected steel mains that are coated, I believe, is very small.

Q. Okay. But the answer is you don't know?

A. The exact answer, no.

CHAIRMAN GAW: Let me ask -- I don't want to cause an issue that's not an issue. May I ask Laclede as I'm referring to these graphs, are those terms interchangeable, if you know?

MR. PENDERGAST: Yes, Chairman Gaw. It was our intent to use them interchangeably.

CHAIRMAN GAW: Okay. And when you utilize the difference in the -- when some of them talk about 2-inch and 1 1/4-inch, is that to be assumed on the one -- on those that do not give -- are those exactly the same things all the way through those Exhibits 1 through 4 in your application?

MR. PENDERGAST: May I have Mr. Lauber answer that one?

CHAIRMAN GAW: I can come back. I'm trying not to get -- I just was trying to clear it up so I'm not going down a red herring trail here. We can clear that up later if you want.

BY CHAIRMAN GAW:

Q. Well, let me ask specifically about Exhibit 2. That's about clamps installed per 10,000 feet, a measurement of that across fiscal years '70 through, it looks like, through 2002. I can't decipher whether that's the entire year or not. Do you see that?

A. Yes.

Q. Okay. And so the graph is showing the number of clamps installed per 10,000 feet. Do you know whether those -- whether the criteria for installing those clamps was consistent over that time frame?

A. That would be a question best asked to Laclede.

Q. You don't know the answer to that?

A. No.

Q. And I notice in -- first of all, what year was it that Laclede dropped from the 30,000 feet replacement to 20, do you know?

A. '95 is -- '91 through '95 they did 30, and

then '96 through '98, it was scheduled for the 20.

Q. I notice there's some fluctuation there in the pattern between '9-- well, even '92 through 2000. Do you see that? It seems to go -- it seems to rise and then it falls a little, rises and then falls. There's a year there it looks like somewhere in '98, '99, do you see that, where it's falling on the number of clamps per 10,000 feet?

A. I see the graph, yes.

Q. You see where it falls there around '99 somewhere it looks like?

A. Yes.

Q. Okay. And then it goes back up in 2000. Do you see that?

A. It goes back up in 2000?

Q. Uh-huh.

A. It looks like it goes down from '99 to 2000.

Q. Maybe I'm looking at it wrong. Were you looking at Exhibit 2?

A. Yes. 2000 would be the third bar from the right. 2001 would be the second bar from the right and 2002 would be the first bar.

Q. We're just -- okay. Maybe I'm misinterpreting where those years are. Just before 2000, you see a bar that increases?

A. Right, '99, 1999.

Q. You're calling that 1999?

A. The far right bar would be 2002, the way I read the graph.

Q. Okay. So you've got in the year '99 there's an increase?

A. Correct.

Q. And then in the year 2000, there's a drop?

A. Correct.

Q. Okay. And it looks like in 2001, it's fairly constant?

A. Correct.

Q. And then in 2002 there's somewhat of an increase?

A. Correct.

Q. So when you say that there's a consistent dropping in the graph, in essence, there's some ebbs and flows and up and downs in this graph in the last few years, wouldn't that be true?

A. That would be true.

Q. There is a lowering from that down to a level in the last -- beginning in 2000 and 2002 and -- well, 2000, 2001 and 2002, from what we had been previously seeing, if you compare that range to what you have prior to it, though; is that true?

A. Right. I'm looking at the trend and the --

you know, averaging years together versus individual years. I think that's what you're getting at.

Q. Yeah. I'm just trying to see when you're assessing this and you're saying the thing is going down, you're looking at a range and a trend, rather than saying every year it's been going down?

A. Right.

Q. Because, in essence, the last measurement we have on here has gone up a little?

A. In one specific year. And there would be probably numerous things behind that that would explain it, but if you look at the overall trend of this graph, it's gone dramatically down.

Q. Uh-huh. Which should be expected, shouldn't it, if you have any replacement program at all, it should be trending down?

A. Depending on the replacement program and the pipe that you're replacing, yes.

Q. Unless we're seeing something going on with the pipe that it's reaching, there's something going on that's causing it to escalate in the leakage, even though the -- some of it is being replaced. I suppose that could occur?

A. It's probably possible.

Q. On Exhibit 3, that is dealing with -- again,

there's some specifics on the measurement of the steel main, 2-inch and 1 1/4-inch on this exhibit. But it's talking about active clamps per 10,000 feet. What does that mean to you, active clamps per 10,000 feet?

A. I discussed that with Laclede at the time, but I'd be -- I'd be basically guessing at this point.

Q. You don't recall?

A. I think I know what it means, but I'm not positive.

Q. Okay. So you just -- you really don't know right now at this point?

A. I think I know, but I'm not positive. I'd prefer that you ask Laclede those questions, unless you want me to --

Q. That's okay. On Exhibit 4, it talks about clamps per 10,000 feet per sections replaced. Do you know what that means?

A. I believe that means the mains that they're replacing that year, how many clamps were on those mains that they replaced.

Q. Okay. And the clamps would be on there if there had been some leakage that had been found --

A. Right.

Q. -- previous?

A. Those are leak clamps, yes.

Q. So there's a reduction showing a trending down basically every year on the number of clamps they're finding on the sections that they're replacing?

A. Correct.

Q. So how would you interpret that? What does that mean to you?

A. That we're replacing mains that have not experienced as many leaks as in the past. And in the past you were replacing mains that were having -- in active corrosive areas that had several corrosion leaks, had lots of clamps on them, so when you replaced them, they had numerous clamps from those leaks. Now we're replacing mains that are not in active corrosion areas and haven't experienced as many leaks.

Q. Right, and that includes an assumption, doesn't it, that the clamps -- that those lines that are leaking have been clamped, isn't that true? I mean, you have to make the assumption that the leaks that are out there that have been identified have been clamped?

A. Correct. I mean, you detect a leak and your leaks are vague, when it's a small pinhole it's -- it's graded. It may be a Class 3 leak. You go back and recheck that. I mean, that's the other -- the safety net we have out here. Part of why the safety's not reducing is we do annual leak surveys. We -- you start -- you know, there's

no leak on that pipe now. You find -- the first time you find a leak, there's a small pinhole in it. The way corrosion works, it starts as a very, very small pinhole.

You find that. There's no hazard, no migration going on at all at that time. You find a small leak, you detect it, and you classify it, for example, a Class 3 leak. On that Class 3 leak, you're going back out there every six months. If it does -- over time the corrosion continues and the hole gets larger, a larger volume of gases are released, it could become a higher grade leak. We're back out there every year with a leak survey, and they're also going back every six months to recheck that leak to see if it's changed or not.

Q. And just so I understand, those -- what leaks are being clamped? Grade leaks are being clamped, all of them?

A. It varies. I mean, it's -- anywhere between Class 1 to Class 3 leaks.

Q. And is there -- if you know, is Laclede following any routine about clamping leaks within a certain amount of time after being discovered?

A. They're following our leak classification and Section 14 of our gas safety rules.

Q. All right. So as far as you know, that would be the answer to that question, whatever that rule says?

A. Correct. Those are the -- that gives them the maximum time they have to repair. Of course, they could choose while they're out there doing the work to go ahead and do it ahead of time at that time.

Q. And you don't know if they're doing it faster or not?

A. They're doing it at the -- they're following the leak classification rules. I mean, every company we have, you know, they choose on their own. If they're already out there, they may decide to go ahead and fix it right then, even though they have 15 days, 45 days, five years, whatever it may be under the rules that they have. It's an individual operator's decision when they're going to fix that leak.

Q. Okay. Do we have a graph of the number of leaks per 10,000 feet, rather than the number of clamps at 10,000 feet?

A. I don't have one.

Q. Aside from reviewing the application on the steel main replacement program from Laclede and evaluating that internally and the information submitted, did Staff do anything independent in regard to an investigation on -- in deciding whether to approve this application?

A. I'm not sure what you mean by independent. Reviewed their application, asked questions.

Q. Okay. And who did you ask questions of?

A. Their operations personnel.

Q. Did you --

A. Engineering staff.

Q. Okay. And were any of these people people that had been out actually replacing the lines that you talked to?

A. No, not the -- the people I talked to are not the people in the field actually doing the replacement. I'm talking to the people in the -- who are preparing the application and the engineering and operations-type personnel.

CHAIRMAN GAW: That's all I have, Judge.

JUDGE RUTH: Any additional questions, Commissioner Clayton?

COMMISSIONER CLAYTON: No.

JUDGE RUTH: Then I'll ask Public Counsel if you have any questions for this witness?

MR. MICHEEL: No questions, your Honor.

JUDGE RUTH: And Laclede?

MR. PENDERGAST: Just a couple.

CROSS-EXAMINATION BY MR. PENDERGAST:

Q. I was going to say good morning, Mr. Kottwitz, but I guess I should say good afternoon.

A. Good afternoon.

Q. Just a couple of quick questions. You were asked a number of questions by Chairman Gaw, I believe, about the incidence of leaks on the unprotected steel main and how they have declined over the years. Do you recall those?

A. Yes, vaguely.

Q. And would it be fair to say that 20 or 30 years ago the incidents of leaks on the kind of unprotected steel main that was in the ground at that time were significantly higher than they are today?

A. The incidents of leaks?

Q. Were significantly higher --

A. Yes.

Q. -- 10 years ago than they were today?

A. Yes.

Q. And they were higher 20 years ago than they were 10 years ago; is that correct?

A. (Witness nodded.)

Q. And higher 30 years ago --

JUDGE RUTH: You need to state your answer.

THE WITNESS: Yes, they were, multiple times as you go farther back, greater.

BY MR. PENDERGAST:

Q. Okay. And even when they were at these levels that were substantially higher than they were today, are you

aware of any incident where that kind of corrosion leak on a bare steel or unprotected steel main led to an incident?

A. No, I'm not.

Q. Okay. And does it give you some sense of confidence that, because of the leak survey procedures that are in place, because of the gas notification procedures that are in place, that if no incident occurred 20 years ago or 30 years ago when the leak rate was far higher than it is today, that that gives you some confidence that public safety will be protected when we have pipe in the ground that has a far lower leak rate?

A. Yeah. I have no reason to expect anything different.

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

QUESTIONS BY JUDGE RUTH:

Q. I'd like to ask you to clarify what counts as an incident.

A. An incident is defined in the regulations when a release of gas results in a set of criteria, and it's in our gas safety regulations.

Q. Can you refresh the Commission's memory as to exactly what that criteria is?

A. Okay. It's the -- there is a federal one and a Missouri one. The Missouri one is if it results in a loss

of life, medical care beyond just treatment and release and then $10,000 worth of property damage.

JUDGE RUTH: Are there any additional questions based on the cross-examination for this witness, Mr. Chairman?

FURTHER QUESTIONS BY CHAIRMAN GAW:

Q. Just to follow up on that, the number of incidents that have occurred over the last several years, you have that information?

A. We do. When there is an incident, it's reported to us and we do an investigation and do a report on that. And I'm aware of those investigations and reports.

Q. Have there been incidents on Laclede's system in the past five years?

A. In the past five years? I should know that off the top of my head but, yes, I believe there was one, yes.

Q. Just one? If you don't know, it's okay.

A. I'd have to look. I just -- I should know the answer off the top of my head, but I'd have to look.

CHAIRMAN GAW: That's all right, Judge. Thank you.

JUDGE RUTH: Commissioner Clayton?

(No response.)

JUDGE RUTH: Okay. Based on the additional

questions from the Bench, Public Counsel, do you have any recross?

MR. MICHEEL: No, your Honor.

JUDGE RUTH: And Laclede?

MR. PENDERGAST: No, your Honor.

JUDGE RUTH: Then, Ms. Shemwell, do you have any redirect for this witness?

MS. SHEMWELL: I think we will, Judge. I think it might be okay to go ahead and break for lunch so we might visit with Staff since we're going to convene after lunch; is that correct?

JUDGE RUTH: That will be fine. We'll take -- we'll take a break until 1:15. That's an hour and five minutes. We're off the record, then. We'll reconvene this afternoon.

Thank you.

(A BREAK WAS TAKEN.)

JUDGE RUTH: We are now on the record. We took a break for lunch. It's about 1:18. We're starting back up. When we left, we were getting ready for Staff to do redirect. Are you ready, Staff?

MS. SHEMWELL: Yes, ma'am.

JUDGE RUTH: Would you please move up to the lectern? And I'll remind you, Mr. Kottwitz -- is that how you pronounce it?

THE WITNESS: Yes.

JUDGE RUTH: Kottwitz?

THE WITNESS: That's correct.

JUDGE RUTH: I'll remind you that you are under oath.

You may proceed, Staff.

MR. BERLIN: Thank you.

REDIRECT EXAMINATION BY MR. BERLIN:

Q. Mr. Kottwitz, is this your first application from Laclede with regard to the evaluation of an unprotected steel main replacement program?

A. No, it's not. I was involved with the writing of the rules for this and also their first program that was submitted, program application that was submitted in 1990 and '91, and then the subsequent revisions to that program since then. So I've been dealing with this program since its inception as far as the rulemaking.

Q. Thank you. Given your long history in the evaluation of the programs involving unprotected steel mains since, I believe you said, 1991, in the event that you found any kind of problem or identified a problem in any of your evaluations of these applications, would you have filed anything with the Commission?

A. Yes. We monitor the programs by -- they submit annual data to us each year on what they've done

under that program. And if this application were approved, they'd be submitting an annual summary of their corrosion leaks. So, if anything, we notice anything during that annual monitoring, we would bring that forward to the Commission.

Q. Okay. There were some questions from the Commissioners that had addressed the subject of reducing the replacement rate from 20,000 feet per year to 10,000 feet per year. And that gives the obvious indication that it would take twice as long to proceed with replacement rate of the steel mains.

So I want to ask you, is age a factor that drives the replacement of unprotected steel mains?

A. No, it's not. Age is not really the key factor. It's really the corrosion environment that that main's located in. You could have a bare unprotected steel main located in, say, sand or non-corrosive soil, and it could stay there indefinitely and not have any corrosion occurring. And so age is not really a factor. The real factor we're looking at is the environment, as far as corrosive -- how corrosive the soil is where that main's located.

And in this case with Laclede's program, they've -- the mains that are located in very active corrosion areas have already been replaced. So we're left

with the mains that are in more non-corrosive locations.

Q. There were also some questions from Commissioners regarding the reduction or proposed reduction of replacement rate from 20,000 to 10,000 with regard to the amount of resources needed to conduct a program that would target 10,000 feet per year. Is the relationship proportional? In other words, would the resources needed to replace 10,000 feet per year be half of what their resources are now at the 20,000-feet-per-year rate?

A. Based on Laclede's application, that is also mentioned in my Staff recommendation, it would be more than half. The mix over years has become larger and larger diameter mains that have been involved with the replacements. Used to be, like it showed on the graph, the 1 1/4-inch and 2-inch mains, that used to be the bulk of the replacements. The small diameter mains are cheaper to replace than large diameter.

So we're at the point now where the mix of the replacements involve many more large diameter mains, so the replacement cost is much more expensive than it was in the past. So the 10,000 feet would be much more than half of the cost to do the 20,000 feet in the years past.

Q. When you say that 10,000 feet replacement rate would be much more, I mean, are you referring to much more than half the cost --

A. Correct.

Q. -- of the 20,000 feet --

A. Correct.

Q. -- per year replacement rate?

A. Right. More than half of it.

Q. Have you seen anything that would indicate any kind of escalation in leaks or in the -- with regard to the replacement of unprotected steel mains?

A. No. It's actually been the opposite. All the information I've been shown is the leaks and leak rate's been decreasing.

Q. Commissioner Gaw had referred earlier to -- or actually made a question regarding any prior incidents in the past with regard to Laclede. Have there, in the past five years, been any incidents regarding unprotected steel mains?

A. No. As I mentioned to Mr. Pendergast, to my knowledge, there has been no incidents ever to my knowledge involving bare unprotected steel mains with Laclede.

MR. BERLIN: Thank you. That concludes my questions.

JUDGE RUTH: Okay. Thank you. You may step down, but I ask that you not leave. You're not excused. You might be recalled. Thank you.

Let me ask the Commissioners if you have any

other questions for Staff witnesses, and if you do not, we will move on to inviting Laclede to present a witness for some of the same type of questions you've been asking.

(No response.)

JUDGE RUTH: Okay. Then Laclede, would you please present a witness?

MR. PENDERGAST: Your Honor, would it be okay if I tried to answer a few of the questions and then the witnesses could follow up?

JUDGE RUTH: That's certainly fine. We'll start with the Chairman, Mr. Gaw.

CHAIRMAN GAW: I might see, Mr. Pendergast, if you have -- if you want to make some comments to some of the questions first, I'll let you do that.

MR. PENDERGAST: If I could, yes. Great. Thank you, Chairman. I'd appreciate that. With the leave of the Bench, I have a couple of handouts here I would like to distribute.

(EXHIBIT NOS. 1 AND 2 WERE MARKED FOR IDENTIFICATION.)

JUDGE RUTH: You may proceed, Mr. Pendergast.

MR. PENDERGAST: I wanted to go ahead and take a brief opportunity here to answer some of the questions that have been raised by Chairman Gaw and Commissioner Clayton. And to answer a couple of them, I think I have to

give just a short synopsis of the efforts that were made on the unprotected steel main program over the years.

And I think as the testimony has indicated, it's been an evolving program. For much of its history it was a program that was done by Laclede without any specific requirements by the Commission. And, quite frankly, by the time the 1989 safety rules were enacted by the Commission, we had already removed a majority of the unprotected steel main that we had in the ground at a rate that was much more significant on an annual basis than what was approved by the Commission back, I believe it was, in 1991.

And my recollection of that program was that the Commission approved the program for approximately five years that had 30,000 feet per year, and in the program itself there was an indication that it was expected that the annual amounts to be replaced would decline over time as the pipe with the greatest leak history was removed, based on the criteria under the program.

Then in the mid 1990s, there was another modification made to the program, and I think this time it was simply made based on an agreement with the Staff and the filing that was made in the case file without a specific Commission order that reduced that from 30 to 20,000 feet, and that 20,000 feet was to remain in effect for three years.

After that approved schedule or at least the schedule that we had in that document that had been filed in the case had expired, we had indicated, I think as Mr. Kottwitz indicated, that we would continue with the 20,000 per year until we went ahead and filed an application, which we did, I believe, in May of this year. And this was an average requirement from year to year.

Some years there was more than 20,000. Some years there was less. Usually more. And for our last FY year of 2003, we had replaced approximately 14,000. And these folks can go ahead and give you the specific numbers, but that included approximately 3,000, I think, that we were ahead of the game on, and then 10,400 or so.

At the same time, as I think you've also heard, we were replacing at a faster rate than what was under the program that pipe that was in areas close to concentrated populations, near schools, so forth and so on. We thought that's where the focus needed to be, and that's where it was particularly important to get it out of the ground, and we did that two years sooner than we otherwise would. And that was about -- an acceleration of about probably 3,600 service lives, compared to what the rate would have been if we'd just gone ahead and followed what was in the program filing that we had made back in '94 and '95.

So that's where it stands today. I know there's been some questions about redeployment of resources and that sort of thing, and I can tell you a couple of things about that. Many of those resources have, in effect, already been redeployed. I think as you've heard from the Staff today, as you've seen in their reports under the copper service program that we had, there were two alternative ways of addressing a copper service line, whether it was leaking or not.

One was to go ahead and do a partial replacement of that area of the copper service line that was most vulnerable to corrosion, and the other was to do a complete replacement all the way from the main to meter.

And although we had both of those alternatives that we could go ahead and pursue under the program, and in the early stages did do a number of partial replacements, based on discussions that we had had with the Staff, we thought it made sense to go ahead and move to doing main to meter replacements for all the lines. And as a result, we have continued to do that over the last couple of years.

And obviously it requires additional resources to make the main to meter replacement than it does to go ahead and make a partial replacement.

I think you can safely say that by pursuing that other alternative when technically we could have gone

ahead and gone with the partial replacements, there are tens of thousands of additional feet of copper service lines that have been replaced than the minimum that would have been required.

On the unprotected steel, I've already told you about the focus and the acceleration that we've had on the stuff that's close to population areas and under continuous pavements and -- or concentrated population areas, and so that's also been a place where we've tried to go ahead and increase our efforts.

And I'd also like to say that, in addition to doing that, we've been working on leaks. And if you look at one of the handouts that I gave you that has average monthly leak backlog, I think this is a pretty good overall indication of where we are on the system today. This is a monthly leak backlog, and when we say backlog, that may be a little misleading.

As you heard, there are various classifications where, for some leaks, you have up to five years to go ahead and repair them or replace the facilities, simply because they're viewed as nonhazardous under the criteria in your rules. And so you're always going to have some of those leaks on your system that you'll get to as resources allow you to. And that's what's really reflected on this average monthly leak backlog.

And as you can see for 1991 through 1999, there was some reduction in that from 12,000 down to 8,000, with a little bit of variation from year to year. And since 1999 they've gone down from 5,640, to 5,640 in 2000 from the 8,466, down to FY 2003 we had 3,830. And I can tell you today that number is right down around 3,000 now. So we've made real significant progress, too, in just going out there and working leaks in general and trying to go ahead and get those addressed more quickly than we have in the past.

As far as the unprotected steel main itself, if you look -- and you do have to struggle with this a little bit to get your mind around it and try to come up with relevant criteria so that you can have a real measurement of what kind of progress is being made. And I think this gives you a pretty good idea. Back in 1972 to '80, and this was before the program was ever in effect, we had average repair clamps installed per year of about 3,100-plus, and that obviously is a fairly significant number.

The one observation I will make is that, even though we had approximately 3,100 leaks per year, as the other witnesses have testified today, there were no incidents involving these kind of corrosion leaks on unprotected steel main. We've got a very active program, obviously, for detecting those and for fixing them as

quickly as possible so they don't result in some sort of incident.

But notwithstanding that, that number has declined and it's declined by about a hundredfold to where, if you look at the average number of repair clamps installed per year for the 2003, that's averaged about 32. And, you know, from our standpoint, that's obviously a dramatic improvement.

And we think the same procedures that allowed us to avoid incidents back in '72 to '80, when they were 100 times greater than they are today, also provides assurance that we can prevent those kind of incidents when we have a much lower leak rate today.

I think the other relevant criteria, because it is true that as you take more pipe out of the ground, you would expect your lines and leaks to go ahead and decrease, but is that also happening on a proportional basis? And I think you've heard some testimony today that it is, but I think this figure on the right tends to put some bones on that or some meat on those bones by showing you exactly what's happened.

And what that essentially shows is that if you look at 10,000 feet worth of main and what sort of clamps are being installed per that 10,000 feet of main, that that's declined from about 35 per 10,000 feet back in the

'72 to '80 period, to about 3 per 10,000 feet today. Once again, that which is adjusted for footage is a fairly dramatic decline, approximately a tenfold decline.

So I think, you know, that should give you some perspective on what we mean when we say that the pipe that's in the ground today is in far better shape than it was 20 or 30 years ago, when our procedures even then were adequate to prevent incidents from happening. Just on a macro basis, you know, I'd be the last person to say that you can measure a company's commitment to safety solely through how much it spends on it, but that is certainly one factor.

And from that context, I can tell you that since 1978 -- not 1978, excuse me -- 1998, the total amount of dollars that we spent just on these major safety programs that have been talked about today has more than doubled from about 5 million a year to $12 million a year, that in total the amount we've spent over the last three years, for example, has been about 40 percent of our net income, and we don't see any significant decline in that -- in that figure happening.

And that's just for the major safety programs. When you add in other capital expenditures, then you're talking about expenditures that exceed, and exceed by tens of millions of dollars over that same period of time

whatever net earnings the company has had. So we continue to have very significant capital requirements.

And I would like to address the rate case question, because by and large -- not exclusively, but by and large, these are mainly capital expenditures, and because they are capital expenditures, those are expenditures that wouldn't have been built into the last rate case. These are all incremental expenditures, by and large. There may be a little depreciation. That would be relatively minor, but they're primarily capital expenditures.

As a result, there's really been no recovery on them. We do have an Accounting Authority Order that allows us to defer those capital expenditures for future recovery, and we do have an interest mechanism in effect that would allow us to go ahead at the proper time and recover those facilities. But it's not like they're facilities that were included in rates at a certain level in the past, and now we're reducing it below that level that was included in rates.

I think that from my -- well, the only other thing I would say, and I -- you know, there may be some concern about whether a change like this would have some dramatic impact on our work force or something of that nature. I want to assure the Commission that if there is

that concern, you don't need to have it. You know the proof's kind of already in the pudding, and there have been no layoffs related to this unprotected steel main change, nor would we anticipate that there be any related to that in the future.

We've probably got, since 1998, somewhere in the neighborhood of 20 or 30 additional people working construction and maintenance compared to what we had then, and while those numbers over time may vary by a percent or two, you know, this -- this change is not going to have any material impact, and there certainly aren't going to be any layoffs associated with it, so I just wanted to make that clear.

I think that's all I have, but we do have witnesses here that are available to answer any questions. I'll certainly answer any if I can, and whatever your pleasure is.

JUDGE RUTH: First I want to make it clear on the record that I intend to mark as Exhibit 1 for identification purposes the first document, which was the one that said average monthly leak backlog. And for identification purposes the second one, which is the smaller chart, average repair clamps installed per year per 10,000 feet, that one I'll mark for identification purposes as Exhibit 2.

MR. PENDERGAST: I would appreciate that, your Honor, and might I also ask that you take administrative notice of the pleadings that have been filed in this case, you know, without the necessity of having to go forward and put witnesses on to verify each item that happens to go ahead and be in those pleadings? But since this is sort of an evidentiary hearing that's concerned with what we had in those pleadings, if you're going to rely on things, I'd like to be able to rely on those as well.

JUDGE RUTH: Yes. If we need any additional verification added at a later point, I'll issue an Order to that effect.

MR. PENDERGAST: Very fine. Good.

JUDGE RUTH: Then first let me ask if -- Commissioner Gaw, if you have a specific question you might ask Mr. Pendergast, and he can direct us to which witness may be appropriate. And we may need to switch back and forth between different witnesses.

MR. PENDERGAST: Sure.

Chairman Gaw: In regard, Mr. Pendergast, to the expenditures that you referred to, I was wondering if that's something that's available to us in any document form or we would have in front of us in some fashion.

MR. PENDERGAST: I can certainly go ahead and get that for you. I don't know that we have it prepared,

but we can give you, like, a five-year time frame or something like that.

CHAIRMAN GAW: The figures that you're citing, can you tell me what they include? When you come up with a number and say, this is how much we're spending, what is that comprised of?

MR. PENDERGAST: Right. 5 to 12 million would be basically the major safety programs that we've been talking about, mainly the copper service replacement program, our cast iron program, our unprotected steel main program, and I have a feeling there's one or two others in there, which I could certainly have one of the witnesses speak to.

CHAIRMAN GAW: That would be fine. If you want to do that, that would be helpful.

MR. PENDERGAST: Great. Should I put them up now?

JUDGE RUTH: That's what we'll do. Who would you like to call?

MR. PENDERGAST: Mr. Lauber.

JUDGE RUTH: Did I understand that your last name is Lauber?

THE WITNESS: Yes, that's correct.

(Witness sworn.)

JUDGE RUTH: Let's start you off by stating

your name and spelling it for the record.

THE WITNESS: Sure. My name is Mark Lauber, L-a-u-b-e-r.

JUDGE RUTH: And you may proceed.

MARK LAUBER testified as follows:

DIRECT EXAMINATION BY MR. PENDERGAST:

Q. Mr. Lauber, could you please state who you're employed by?

A. Laclede Gas Company.

Q. And in what capacity?

A. Superintendent of maintenance engineering.

Q. Okay. Could you very briefly give us your background of your employment history at Laclede?

A. Sure. I've been at Laclede for almost 17 years now. I have an engineering degree in electrical engineering, and basically I started working in the construction and maintenance department and filling in, helping, assisting with the superintendent functions in those in a couple of different districts.

I was transferred into the engineering department, worked in maintenance engineering for several years, and then actually got transferred back into construction and maintenance, this time in a -- I guess, a supervisory, assistant superintendent role and actually moved in two different districts. I was responsible for the

maintenance repair, what we call the leak division that was involved with repairing leaks and doing associated miscellaneous maintenance on the distribution system.

I worked in that area for almost four years, and then I got moved back into the engineering department. I was promoted to senior maintenance engineer in the maintenance engineering department, and then also to superintendent of maintenance engineering a few years later.

Q. Thank you. And during your time when you were working, you said with leak crews in a supervisory capacity, did you have occasion to supervise any work on unprotected steel mains?

A. Yes, I did.

Q. And just qualify the two documents here that have been marked as Exhibit 1 and Exhibit 2, were those prepared by you or under your supervision?

A. They were prepared by myself, yes.

Q. And is the information presented in there true and correct to the best of your knowledge and belief?

A. Yes, it is.

MR. PENDERGAST: Thank you. And I will tender Mr. Lauber for any questions.

JUDGE RUTH: Mr. Chairman?

CHAIRMAN GAW: Thank you. Thank you, Mr. Pendergast.

QUESTIONS BY CHAIRMAN GAW:

Q. I have a feeling we should have talked to you earlier, but let me ask you this: In regard to the replacement program on the steel mains, are you familiar with how much expenditures have been over the last several years on that program?

A. I'm actually not familiar with detailed expenditures.

Q. That would be somebody else?

A. That would be somebody else, yeah.

Q. In regard to the mains that are left to be replaced, can you tell me what their characteristic would be in regard to size, relative to what's been replaced already, and maybe some detail about why these mains were left, as opposed to some of them that had already been replaced?

A. Sure. Basically through our history -- and we've been replacing these unprotected mains. And as you mentioned earlier, the bare steel and unprotected we pretty much use interchangeably. That came up earlier.

Q. Okay. Thank you.

A. Since the mid '50s we had a pretty active program of replacing these mains. Throughout our history, we've -- typically the smaller diameter, what we call the 2-inch and 1 1/4-inch, which shows up in some of the exhibits in our application were installed in neighborhoods

and whatnot to feed customers. And so consequently, we had far larger amounts of footage in the ground of those sizes, so we call that small diameter.

However, we do have some larger diameter, and did have some larger diameter mains. They're more the feeder-type mains in the ground. The smaller diameter, because of -- predominantly because of the thinner wall thickness and also maybe the areas that they were -- the environments that they were in, always had a higher, much higher leak rate than the larger diameter mains.

So since we've always had a program of prioritizing and tracking and surveying what's going on with our mains, we've always targeted the smaller diameter more so than the larger diameter, although we were kind of considering them all together. So historically the bulk of our replacement have been the smaller diameter mains.

We're running into now, in the past few years, where we're getting the leak rates down on the smaller diameter stuff so that when we're considering overall the leak rate on all the mains, some of these larger diameter mains now are starting to come into the picture. And we're starting to replace more and more of those as well, to the point now where our replacement program is really nearing the end of everything we have in the ground, and certainly everything that falls under (15)(E) of the code to where in

the last few years of the program we're going to be hitting more and more of these larger diameter mains; hence it's going to be much more expensive and has been much more expensive to replace these mains.

Q. If I'm following you here, what you have left is proportionately a greater percentage of it than what you've been replacing in the past are larger mains, correct?

A. Correct.

Q. Are those mains -- I'm just curious. Are those mains that are larger in diameter also thicker than the smaller --

A. Yeah, they have a thicker wall. That's correct.

Q. How much variation is there, if you know? Is it a big difference?

A. Well, I mean, I can just give you general terms that --

Q. That would be fine.

A. Like a 2-inch main or a, like, an 8 or a 10-inch main would -- or 12-inch main would be typical sizes, would generally have, you know, twice the wall thickness that maybe a 2-inch main or 1 1/4 main would have.

Q. Is that another reason why you tended not to see leaks --

A. Yeah.

Q. -- as often on the larger mains?
A. Yeah. That's exactly right.
Q. So the corrosive nature of the mains or the soil that they're in, even if they were equal in regard to a smaller diameter main and a larger one, you would expect the smaller one to corrode through quicker because of the thickness of the wall?
A. Correct. Correct.
Q. Okay. Are you seeing much difference in regard to the frequency of -- of leaks on the larger mains at this point than what you've seen in the past --
A. No.
Q. -- or is it just a proportional thing?
A. It's a proportional thing. And it's only standing out because we're now getting to replacing -- we're actually replacing better and better main, you know, that's in better and better condition.
Q. And when you say better and better main, you're basing that on what you are finding when you dig it up and replace it?
A. Yeah, and leak history.
Q. And leak history?
A. Right.
Q. Okay. So I'll ask the question of someone else about the amount that you've been expending.

Looking at these exhibits on your application, then, if I look through and I see Exhibit 1, you have that with you?

A. Yes, I do.

Q. Just so you can refer to it.

A. Sure.

Q. Looking at Exhibit 1 there, that's unprotected steel main repair history. That's all of the steel main on that graph, correct?

A. Exhibit 1, yeah. It's right. That's all the main. That's, you know, the small diameter and the larger diameter stuff, yeah.

Q. And then Exhibit 2 is just the smaller diameter?

A. Yes.

Q. Okay. And then Exhibit 3, again, is the smaller diameter?

A. That's correct.

Q. And then Exhibit 4, that's -- that's all of it?

A. Yeah.

Q. Both small and large?

A. That's a more recent history and that's looking at all diameters, right, all sizes.

Q. There's some discussion in -- and I don't know

if it's in the application itself. I know it's in some of the information that we've been given, that Laclede intends to move -- at least I get the impression -- move some of the resources dedicated currently to the steel main replacement program to other replacement programs or the replacement of other kinds of line. Is that accurate?

A. Well, I wouldn't say that we're planning to move resources, you know, after we get that application approved.

Q. Assuming you were approved?

A. Yeah. We've really already begun that process by -- by allocating those resources to the copper service replacement program, some of which Mr. Pendergast already discussed about replacing the service lines from main to meter, and we've also done a number of other things, as far as allocation or going above, you know, the agreements that we have in place or what we're mandated to do under the rules.

Q. Tell me what those other things are.

A. Sure. Related to the stipulation and agreement for copper, there's two other things besides doing the main to meter replacements; that is getting rid of -- well, the main to meter replacement is getting rid of additional copper. But on the other side of it with dealing with leak surveys, Laclede, early on in the stipulation,

felt like that, you know, our annual bar hole survey that we're doing could also be augmented by additional checks that are made when our servicemen are visiting the areas.

And on odor complaints basically what we decided to do was do more of an expanded leak search than what we have historically done or what we are required to do under the rules. So what we did was we equipped our servicemen with addresses of all the copper services in the entire system, so that when they're out on there on a leak complaint, even if it was reported by an address that has a plastic service, if there was any copper services adjacent in the area, that we'd also go out and place a bar hole over the service line Ts at those addresses.

And that was far and above what we'd done in the past, and it's almost like doing another bar hole survey. Again, it could be, you know, we're hitting those things multiple times in a year in some cases. So that was one kind of a major thing that we did.

And then there was one other thing related to the copper program. Yeah. That was, we also noticed or realized that when we negotiated the Stipulation & Agreement with the copper, that -- that the -- the accelerated replacement of leaks, of service lines that had leaks reported on them in the stipulation really only focuses on leaks found in the bar hole survey that we're required to do

every year, and it didn't really address at all the leaks called in or coming from other sources. So that if a customer calls in a leak and is reported at an address, the stipulation didn't cover it. So the only thing we were really required to do is fix that leak within five years, if it was a Class 3 leak.

So what we decided to do, and it just made logical sense, that certainly if a customer's calling in an odor that we wanted to address that at least as fast as the other leaks we're finding on our own during our bar hole survey, so that's what we did. We decided to put that under the same guidelines with replacement, so that if we're in one of these higher pressure areas, we were replacing them or we are replacing them at an average of, you know, 3 or 4 months, as Mr. Leonberger noted. And then if it's in, you know, the lower pressure area, that it's, I believe, 7 to 9 months. The average is somewhere in that neighborhood. So instead of taking up to, you know, several years to get to --

Q. When was that decision, if you recall?

A. I believe it was 2001 or that might have been a 2000, actually, just shortly after the stipulation. And then the decision to go to this extra bar hole check, I think that was in 2001.

Q. Anything else that's along that line?

A. Related to just maybe general safety concerns. I mean, we have some internal practices that really aren't connected with normal replacement programs, and that would be replacing hard copper service lines as we find them leaking, as opposed to repairing them. And then we're also replacing them associated with our other main replacement program.

So that if we -- historically going back 15, 20 years, what we'd do was we'd just transfer that hard copper service line to the new plastic main if we put it in. Well, now we have the excavation open, and instead of transferring, we're going to go ahead and renew that service main to meter and get rid of it. And we've been doing for a number of years.

Q. That's hard copper?

A. That's hard copper service lines.

Q. For purposes of understanding, what is -- what is hard copper, as opposed to the copper lines that we've been talking about previous to this? What's the difference?

A. Essentially, metallurgically speaking, I guess, there is no difference in the composition of the copper. The difference really is that -- in how it's manufactured, and really how it's cooled. And copper, hard copper comes in straight lengths and the soft copper comes in a roll or came in a roll. So like I said,

metallurgically speaking, there's really not much difference at all. There isn't any difference.

Q. Is there a difference in the susceptibility of it to developing leaks?

A. There certainly is, and that's mainly because of how we installed it.

Q. You might explain a little bit about that.

A. Sure. Basically when we -- historically when we replaced these old bare steel service lines, unprotected steel service lines in the '50s and into the '60s, the industry-accepted method -- it was really pretty popular in the industry to take this hard copper, since the bare steel, unprotected steel was straight and typically going straight into a basement, you'd dig a hole outside and you'd just slide it right into the basement. So -- or actually it was the other way around. You'd go inside and you'd slide it out to the curb, but --

Q. So this is the copper, inserted into the old steel line?

A. Yeah. Yeah.

Q. Go ahead. I'm sorry.

A. That's all right. But the main thing to note is that the old steel line was still left in place and you were in contact with the copper.

Q. And what does that cause? That causes some

process to occur, doesn't it?

A. Yeah, it actually applies cathodic protection to the copper line, so you have two dissimilar metals in contact and you're applying protective current to the copper. And that mitigates corrosion.

Q. And it has been argued by some people that that may also cause some protection if the steel -- if the steel is deteriorating and the ground moves, the steel can cut the copper?

A. It's really related to some very, very unusual outside forces. You have to have a lot of stress there, and we just haven't seen it.

Q. Ever?

A. No, I shouldn't say ever, but we haven't seen it on any great --

Q. On a frequent basis?

A. Frequent basis, right.

Q. Okay. Go ahead. I interrupted you.

A. I think I was done with my -- no. Well, related to the copper, then, the hard copper and the installations, I mean, predominantly the biggest reason we feel like we don't see a leak rate on the hard copper versus the soft copper is because it's in contact with that steel.

Q. But as far as your program is concerned, there's also some reference in -- I think Mr. Schulte may

have referenced it, and I think there's some reference in some of the documents we have about these pigtails?

A. Yes.

Q. Tell me about that.

A. Well, basically when you transferred your service to a new main, typically the main was at a different depth than the older main. So if you had a straight service line coming out and you were trying to utilize the existing service, it's not going to line up perfectly with the existing main. So you had to have some kind of transition and a flexible piece of pipe to get from the main to the service, and soft copper was ideal for going that.

Now, the thing to note here is the soft copper is electrically continuous and connected to the hard copper, so any protective current that's being applied to the hard copper is also going to the soft copper. And they're metallurgically the same, so there's really no reason to believe they're not compatible, because they are.

The other thing to note is that that entire service line is then isolated off the main in a compression fitting at the main. So you don't really have any relationship between the main and the service line.

Q. And the reason that you're concerned about the difference in two metals is that when you have two different metals, one can deteriorate on to the other, can it not?

For instance, aluminum next to steel will cause a deterioration in one of the metals. I can't remember if it's aluminum or steel.

A. Yeah. That's -- that's essentially correct, that you don't want two dissimilar metals in contact with each other in the soil, because if they're not -- if they're in contact with the soil at all, depending upon where they fall in the galvanic series, one's going to tend to corrode, and it's going to actually protect the other one.

Q. It causes deterioration of one?

A. Of the one, right, that's more chemically reactive, yes.

Q. Is it fair to say that the request from Laclede to lower the footage down to half of what it's been doing will result in the -- in taking about twice as long to replace it as it would if we left it at 20,000 feet on the steel mains? Does that pretty much go without saying?

A. Yes, if the mains that fall under the current categories right now defined into the rules, essentially if we don't have any additional leaks on the stuff that isn't in those categories or don't have any leaks that develop, you know, indefinitely, then basically, you know, our program will be finished in 8 years at the 10,000-foot-per-year rate, and if we go 20 years -- I mean, 20,000 feet per year, it will be completed in 4 years.

And in worst case, let's say every section of main out there that's unprotected develops a leak. That would take an additional -- in 10,000 feet per year, it would take the additional 4 years, so we're talking 12 years under the 10,000 foot per year under what we've proposed in the application, and we wouldn't have any unprotected steel left in the system at all. It's basically defining the end of our program.

Q. This may be a silly question. If you -- if you're talking about the larger mains being replaced now, is there any difference in the potential danger from a leak in a larger -- a larger line, as compared to a smaller one, because of the volume of gas flowing through? Is there any difference?

A. No, there's no inherent difference.

Q. How much difference is there, if you know, in the cost of replacing that larger line as opposed to the smaller line, if you know?

A. I don't -- I don't have those figures with me. I mean, it's -- I mean, if I would have to, you know, come up with a very general idea to give you, it would be maybe three to four times more.

Q. And does that include -- is that just the cost of the replacing of the materials, a line itself, or is that including the labor?

A. It's really everything. I mean, you've got to open up larger excavation. You're under pavement. And then these larger mains tend to be more under pavement because they're header mains, so they're running underneath large thoroughfares. So pavement restoration and expenses really drives it up.

Q. Has there been anything, to your knowledge -- and this may not be a good question for you -- but in regard to stating affirmatively, this is what Laclede is going to do if they slow down the replacement program on the steel mains, this is where additional resources are going to go into other areas, is that a part of any of the application or anything that you have filed with Staff, do you know?

A. No, other than the resources that we've already allocated to these other things that I've already mentioned.

CHAIRMAN GAW: Okay. I think that's all I have.

Thank you, Judge.

JUDGE RUTH: Commissioner Clayton, do you have any questions for this witness?

COMMISSIONER CLAYTON: I don't believe I do.

JUDGE RUTH: I have a question.

QUESTIONS BY JUDGE RUTH:

Q. And you may have answered it or maybe it can't

be answered, but I think you've indicated that it's more expensive to replace these large mains than the small ones, and at some point someone has said, you can't just -- whatever dollar figure you were doing, 20,000, you can't cut that in half and say that's what Laclede would spend at 10,000?

A. Right.

Q. Where between the two would it fall, because if there's additional resources, I'm confused as to how much additional resources there would be. It sounds like there wouldn't be half the resources?

A. Well, I think what that was going toward was that we anticipate that just the dollars per foot to replace is going to continue to go up as we head into the end of the program, because we're running into larger and larger diameter mains. So if we compare the resources that we're spending today, doing maybe a lot of smaller diameter stuff, to what we're going to do next year and the year after, that's going to go up. So the resources that we're spending today, you can't just say that we're going to cut that in half if we go to 10,000 feet because --

Q. That's kind of my question. Is it going to be cut in half, is it going to be cut a little bit or is it actually going to be more than what you're spending?

A. Well, if you take what it cost us to replace

10,000 feet last year, we would anticipate that next year to do 10,000 feet, it's going to take more resources than what we did last year, because we have more larger diameter mains to do next year. Is that helping you out?

Q. I don't think I've gotten my question answered.

A. If the footage stays the same on a cost-per-foot basis, the cost, the resources are going to still continue to go up per year.

Q. I understand that. I guess my question really is basically, are there any extra resources to reallocate anywhere else if the company would get the application approved?

A. I don't believe so.

Q. And I'm talking about 506.

A. I don't believe so.

Q. So that implies that whatever amount of money Laclede has been spending in the past to do 20,000 foot of smaller mains is going to be used up. If Laclede gets the footage reduced from 20,000 to 10,000, it's going to cost the same amount of money. Is that what you're saying?

A. I wouldn't say exactly that but, I mean, it's certainly going to be offset. What we're going to save is going to be offset by higher additional cost per foot in the future.

COMMISSIONER CLAYTON: Can I just follow up?

QUESTIONS BY COMMISSIONER CLAYTON:

Q. Basically what you're saying is this is a zero sum exchange. Basically there's not going to be a difference in your budget as it relates to the replacement program?

A. I mean, I don't have the exact number.

Q. Sure.

A. Generally speaking, yes.

Q. Generally speaking, it's supposed to -- there's not supposed to be a -- there are not going to be recognized savings here. You're saying you're still going to spend about the same amount of money?

A. Right.

Q. Got you. Now, one other question: Is it you're testimony here today that by reducing this rate, that there is zero additional risk to the public by reducing this?

A. That's correct.

COMMISSIONER CLAYTON: Okay. Thank you.

JUDGE RUTH: Any additional questions from the Bench?

(No response.)

JUDGE RUTH: Public Counsel, do you have any cross-examination questions?

MR. MICHEEL: No, your Honor.

JUDGE RUTH: And Staff?

MR. BERLIN: No, your Honor.

JUDGE RUTH: And will there be redirect?

MR. PENDERGAST: Could I take just a moment, please?

JUDGE RUTH: Certainly. Mr. Pendergast, do you need me to go off the record or do you just want a brief moment?

MR. PENDERGAST: Just a brief moment, your Honor.

JUDGE RUTH: Mr. Pendergast, you may proceed.

MR. PENDERGAST: Thank you.

REDIRECT EXAMINATION BY MR. PENDERGAST:

Q. Just a couple of questions, Mr. Lauber. First of all, just to kind of put things in perspective, when we talk about 20,000 feet versus 10,000 feet, and to give that some human terms, what sort of manpower requirements are you generally talking, say, to do 10,000 feet normally without taking into consideration the larger mains?

A. I believe if we assign a construction crew, which I would say, you know, involves probably a foreman and maybe 3 or 4 different laborers and whatnot and maybe an equipment operator, if we put them on replacing unprotected steel for an entire year, they do generally

about 10,000 feet.

Q. So we're talking about four or five workers altogether, including supervisory personnel?

A. Approximately, yeah.

Q. And I know you don't have the exact figures, but is as just a requirement to go ahead and basically replace larger main a requirement that could demand something close to an entire crew to be able to handle the larger excavations and so forth?

A. It certainly could, yes.

Q. And I made a representation to the Commission before, but just to make it meaningful, I'd like to go ahead and have you see if you agree with me. Do you -- did you try and take a look at whether or not you had seen any incidents, as we've described them here before, related to unprotected steel main in the past?

A. Yeah, I'm actually pretty familiar with basically every incident, explosion that we've had virtually since 1960 on, more or less, and there's has been no incidents related to corrosion on unprotected steel mains.

Q. And that includes those periods of time when the actual leaks that we were experiencing in those mains were 100 times greater than what they are today?

A. That's correct.

MR. PENDERGAST: Okay. Thank you. I have no

further questions.

JUDGE RUTH: Mr. Lauber, you may step down.

CHAIRMAN GAW: Mr. Pendergast, if you don't mind, maybe we could ask him -- if -- you asked him about the steel mains. Could somebody please or I'll ask him about what the incidents that have been in the last few years have been related to?

MR. PENDERGAST: Certainly.

Mr. Lauber, could you -- the last five years perhaps?

CHAIRMAN GAW: That would be fine.

BY MR. PENDERGAST:

Q. Could you --

A. I may not be too good with the dates, but we'll say, what, 1998 on; is that fair enough?

Q. Yeah.

A. Okay. Beginning with 1998, I believe we had two incidents related to corrosion from soft copper service lines. In 1999 we had one incident related to corrosion on soft copper service line. 2000, and there may have been -- we've had a couple of incidents related to third-party damage, which -- basically not necessarily any injuries, but it met the rule requirement for property damage.

And we may have had -- I believe we had one in 1999. I believe we had one of those in 2000, and also I

believe in 2001. And we had one -- maybe one or two in 2001, and then one of those in 2002. We had several of those in there related to property damage. And I believe that was about it. So there's been several related to third-party damage.

JUDGE RUTH: I think we're going to do a few more questions from the Bench.

CHAIRMAN GAW: Just briefly.

FURTHER QUESTIONS BY CHAIRMAN GAW:

Q. When you say third-party damage, what are you -- I think I understand what you mean, but are you -- before when you were attributing an incident to soft copper corrosion --

A. You want that kind of detail?

Q. -- you said something about third-party damage.

I'm not clear about what third-party damage is.

A. I'm -- I apologize for not giving enough detail.

Q. That's all right.

A. I believe the one in 2000 was related -- well, actually, I believe it was 1999, we had one of our supply feeder mains that -- that was exposed during a -- a road project and a, like, a hi-lift-type thing ran into and

knocked, like, a two-inch valve off.

Q. Now I'm following you.

A. So that was maybe in the neighborhood --

Q. Some entity caused damage to your line?

A. -- 75,000 -- yeah.

An outside force, right, yeah. And generally it was, you know, people digging around our pipelines.

Q. And then so have all of the incidents, other than third-party incidents, that you've had since '98 been related to corrosion on soft copper?

A. Yes, I believe so.

Q. And have there -- and say if we go back another five years, would that also be the case?

A. Five years before that, I believe we had -- there's a mix. I mean, there's -- let me think. I believe we had one related to, like, an open fuel run in a house. We had one related to a cast iron break. I'm not sure. I'm not sure what else is in there.

Q. Anything dealing with the hard copper issue?

A. Yeah. Actually there were two, I believe, related to hard copper service lines, fractures in them.

Q. Okay. Do you remember what years those were offhand?

A. '9 -- let's see. The latest one was '95 or '96. I'm not sure. I'm thinking it was '96.

Q. All right.

A. And then the one before that was like '93 or '94.

Q. Okay. Any more soft copper incidents prior to '98, in that five-year period prior to '98? I want to go way back, if you remember.

A. No, I don't believe there were.

Q. Okay. And one more question. The -- the cast iron replacement program, is it complete?

A. Oh, no.

Q. It is not?

A. cast iron?

Q. Yes.

A. No.

Q. How much is left of that?

A. It's really an ongoing program, and it's based on the performance of the system, so there's really not a set amount of footage that's replaced each year, but the company is very active in replacing cast iron.

Q. But it's not a certain number of feet each year?

A. No.

Q. Tell me very briefly if you would -- how you determine how much of that to do every year?

A. Well, we -- just like with unprotected steel,

we look for the leakage rates. We kind of do the same thing with cast iron, only the driving factor we look at other things, but is circumferential with cast iron, it's more of a support issue versus corrosion and it's brittle, so we get breaks. So we track the break and history and we have a criteria that's set out, and if it meets that minimum criteria or whatever, we schedule certain areas or sections for replacement.

Q. Is that done in coordination with Staff?

A. Yes.

Q. Is that in coordination with Staff --

A. Yes. Oh, yes.

Q. -- or is that Laclede's own?

CHAIRMAN GAW: I think that's all. I'll leave that alone, I think. Sorry about that, Mr. Pendergast.

JUDGE RUTH: Since we had a few questions from the Bench, I'll again offer Public Counsel an opportunity for recross.

MR. MICHEEL: No questions.

JUDGE RUTH: Staff?

MR. BERLIN: No questions.

JUDGE RUTH: Do you have additional redirect?

MR. PENDERGAST: Just one brief follow-up.

FURTHER REDIRECT BY MR. PENDERGAST:

Q. On the incident that Chairman Gaw asked you

about as far as the hard copper, do you know if any of that was due to third-party impacts?

A. No, I don't believe they were.

MR. PENDERGAST: Okay. Thank you. Would you like me to call Mr. Hoeferlin to answer the questions?

JUDGE RUTH: The financial issue?

MR. PENDERGAST: Yes.

JUDGE RUTH: Mr. Lauber, you may step down. You're not excused.

And, Mr. Pendergast, I didn't catch who is going to answer the next question.

MR. PENDERGAST: Mr. Craig Hoeferlin.

MS. SHEMWELL: Judge, would it be all right to take a brief break?

JUDGE RUTH: Sure. We'll go off the record. If you only need a few minutes, we'll come back in five. Thank you. We're off the record.

(A BREAK WAS TAKEN.)

JUDGE RUTH: Before we went on break, we were getting ready to see if Staff would have some questions; is that correct?

MS. SHEMWELL: I'm sorry?

JUDGE RUTH: I'm sorry, it was actually Mr. Pendergast.

MR. PENDERGAST: I think the questioning was

concluded. I think we were just taking a break to be taking a break.

JUDGE RUTH: So then you're ready to call the next witness for the financial matter.

MR. PENDERGAST: Mr. Craig Hoeferlin.

(Witness sworn.)

JUDGE RUTH: And would you please speak and spell your name for the record.

THE WITNESS: Sure, it's Craig Hoeferlin, H-o-e-f-e-r-l-i-n.

JUDGE RUTH: Thank you. And, Mr. Pendergast, you have some introductory questions?

MR. PENDERGAST: Yes, thank you, your Honor.

CRAIG HOEFERLIN testified as follows:

DIRECT EXAMINATION BY MR. PENDERGAST:

Q. Mr. Hoeferlin, would you please state whether you work for Laclede Gas Company.

A. Yes, I work for Laclede Gas Company.

Q. And could you tell us in what capacity?

A. I am the vice president of operations.

Q. And could you just give us a very brief summary of your employment experience at Laclede?

A. Sure. I was hired in as an engineer in 1984 with a degree in chemical engineering, spent a short amount of time in engineering as a cub or design engineer. Then I

went through various departments within operations as a front line supervisor, mainly in our gas supply and control, which is our peak-shaving regulator station system control, areas like that.

Then came back into engineering, spent about two more years as a design engineer. Then I went into a superintendent position, again in gas supply control for four years. In 1996 -- excuse me -- 1995, I was promoted to senior maintenance engineer and essentially had the same job as Mark Lauber, the previous engineer or previous witness had.

In 1996 I was promoted to chief engineer and had overall responsibility for the engineering department at Laclede. 1991 I was promoted to superintendent of operations, where I assumed other responsibilities in addition to engineering, which included construction and maintenance, gas supply and control, and our damage prevention program. And then in 2001, I was promoted to assistant vice president of operations, and then later that year vice president of operations.

Q. And you've heard the testimony of Mr. Lauber today?

A. Yes.

Q. Were you in the room?

A. Yes.

Q. Do you generally agree with his statements?
A. Yes, I do.
Q. Okay. And are you also familiar, generally speaking, with the financial requirements associated with the company's major safety programs?
A. Yes. Yes, I am.
MR. PENDERGAST: And I believe that Chairman Gaw had some questions along those lines, so I'll just step back. Thank you.
JUDGE RUTH: Mr. Chairman?
CHAIRMAN GAW: Thank you, Mr. Pendergast. And thank you, Judge.
QUESTIONS BY CHAIRMAN GAW:
Q. Give me some idea about what has been expended by Laclede on the line replacement programs over the course of the last five years, ten years, if you have those numbers?
A. Yes, Chairman. I can go back roughly five years.
Q. That would be fine.
A. For instance, in fiscal 1998, previous testimony -- and I'll support that -- it was about $5 1/2 million in capital costs that we spent on our major replacement programs. That included the cast iron main replacement program, the bare steel or unprotected steel

main program, the bare or unprotected steel service program, and our soft copper service replacement program.

Those costs were roughly the same in 1999, 5.7 million. In fiscal 2000, there was a substantial increase, and that was due to the fact of -- that was really the start of our formal soft copper service replacement program, and those costs in fiscal 2000 were about $11.3 million. Fiscal 2001, those costs were 10.4 million; fiscal 2002, 11.4; fiscal 2003, 12.3.

(REPORTER'S NOTE: At this point, an in-camera session was held, which is contained in Volume 2, pages 175 through 177 of the transcript.)

BY CHAIRMAN GAW:

Q. And your estimates on the 2004 numbers, is that based upon any assumptions in regard to the Commission's order on the steel mains?

A. Yes, that is based on -- for bare steel mains of performing replacement of 10,000 feet.

Q. 10,000 feet for that year?

A. Yes.

Q. And is it true that you're doing 20,000, about, for this current fiscal year?

A. This current fiscal year, we will not -- or we did not complete 20,000.

Q. Do you know approximately how much?

A. It's about 10 1/2, 10,500 for the areas of corrosion. And if my memory serves correct, about 3,000 for the areas in wall-to-wall pavement and areas near public institutions like schools, churches, things like that.

Q. So 13.5 total?

A. 13.5, 14, yes, Chairman.

Q. And that's for fiscal 2003?

A. Yes, that's correct.

Q. All right. What -- have you got numbers broken down on where the money is going, to which replacement programs for those years?

A. Yes, sir.

Q. Could you give me that breakdown?

A. Okay. For fiscal 1998, the cast iron main replacement program was $1.6 million. The bare steel main was 820,000, the soft copper was 1.6 million, and the bare steel services was 1.3 million.

Q. Okay. Keep going.

A. Okay. Fiscal 1999, cast iron was 1.1 million, bare steel was 550,000, soft copper 3.2 million, bare steel services 760,000.

Q. All right.

A. Fiscal 2000, cast iron 3.7 million, bare steel 2.3 million, soft copper 5.5 million, bare steel services 380,000.

Q. All right.

A. Fiscal 2001, cast iron 2.6 million, bare steel main 1.1 million, soft copper 5.89 million, bare steel services 950,000.

Q. Okay.

A. Fiscal 2002, cast iron 1.2 million, bare steel 340,000, soft copper 8.8 million, bare steel services 340,000, and in 2002, we added an additional program, which was to update some of our low pressure regulator stations, and that was 300,000. So I included that as part of the total of 11.4 -- or $11.5 million for fiscal 2002.

Q. And that last category, is that as a result of

some agreement with Staff or just something that's been done by Laclede?

A. It's something where we don't have a formal agreement with Staff, but it is something that we're working with Staff now at this point.

Q. That's fine. What was that figure again? I'm sorry.

A. For the low pressure regulator stations, 320,000.

Q. All right. And then 2003?

A. 2003, the cast iron main is 1.4 million.

Q. Okay.

A. Bare steel is 860,000, that's bare steel main. Soft copper is 9.3 million. Bare steel services 480,000, and then again, the low pressure regulator stations 420,000.

Q. All right. And then your prediction on '04?

A. '04?

MR. PENDERGAST: Excuse me. If I could, I would like to request if we could -- if we could go in-camera on this and -- these involve financial projections that haven't been released to the public, and just to be on the safe side, if we could do that, I'd appreciate it.

CHAIRMAN GAW: I understand.

JUDGE RUTH: Mr. Pendergast, have any of the numbers that have already been read involve highly

confidential information?

MR. PENDERGAST: Conceivably the only number would be -- he did mention an overall number for 2004, I believe, which I probably should have said something about, but didn't. But if we're going to go into more detail, I would appreciate it.

JUDGE RUTH: Okay. If upon reflection you later believe something needs to be made HC that's in the record, when you get the transcript you can file a motion, and we would do what we could at that point.

MR. PENDERGAST: That would be very much appreciated. I guess I would ask at this point if we could make that one number that was given confidential. To the extent we could, I'd appreciate it.

JUDGE RUTH: Okay. Let me go -- I want to go into HC right now.

(REPORTER'S NOTE: At this point, an in-camera session was held, which is contained in Volume 2, pages 182 through 188 of the transcript.)

JUDGE RUTH: No questions Public Counsel.

And Staff?

MS. SHEMWELL: No questions.

MR. BERLIN: No questions.

JUDGE RUTH: Then any redirect?

MR. PENDERGAST: Just a couple questions, your Honor.

REDIRECT EXAMINATION BY MR. PENDERGAST:

Q. Mr. Hoeferlin, you were asked a number of questions about the specific amounts for each of the major programs?

A. Yes.

Q. Both historical and one series of projected. Do you recall those questions?

A. Yes.

Q. And on the bare steel one, without getting into specific numbers, but does the reduction for next year also reflect the fact that we have now completed all of the lines that were in categories 1 and 2?

A. That's correct, yes. The categories 1 and 2 have been completed, so we're not showing any main being replaced in those categories.

Q. And that was generally lines that were under pavement, near buildings?

A. Right, near schools, churches, things like

that, yes.

Q. Very good. So you can't simply look at those two numbers and make an apples-to-apples comparison of what that means in terms of the unprotected steel main that falls in the categories that are subject to the 20 and 10,000?

A. That's correct.

Q. And you gave some numbers as far as what we had done in prior 2003, I think you said 10,500 and also the numbers that we had done for the categories 1 and 2. Were there also some overage for prior years when we entered 2003? In other words, were we ahead of the game by a bit?

A. Yeah. If I can quickly go through the numbers; for instance, in '98, just for category 5, which is the leaking we did 21.5, '99 we did 21.9, 2000 22.4, 2000, 20,100, and then 2000 11,400. So we were actually averaging more than 20,000 feet per year.

Q. And just to resum up on the question, the bare steel, is it still your belief that over time replacing that larger diameter pipe will, in fact, be more costly even at lower footage amount than replacing 20,000 was at smaller diameter pipe?

A. Yes, I do, mainly because it's larger diameter so the material itself will cost more to replace it. As Mr. Lauber mentioned, the excavations are larger, they're predominantly under pavement and major thoroughfares and,

you know, tend to be near, you know, congested areas. It definitely will be more costly to do the large diameter mains.

Q. And Chairman Gaw asked you about Laclede's willingness to make representations regarding how much it will be spending on various programs, and I think you gave him some estimated numbers?

A. Yes.

Q. And what we were looking at for this coming year that were in the budget, and I'm asking you if right now that represents our plans, with the caveat, of course, there can always be modifications, but that's right now what we forecast, correct?

A. That's correct, yes.

MR. PENDERGAST: Okay. Thank you very much.

JUDGE RUTH: Mr. Hoeferlin, I believe you may step down, but you're not excused, so please stay in the room. And I'll ask the Commissioners if you have any questions for either Laclede, Staff or the Office of the Public Counsel.

Mr. Chairman, you're shaking your head no. Okay. Commissioner Clayton?

COMMISSIONER CLAYTON: I don't have any further questions. I -- when we first started talking about this hearing occurring today, I thought it was going to be a

handful of people in the room. I didn't realize that we were going to be taking up the time of everyone here today. So from my standpoint, I just want to say this was very helpful for me and I thank everyone for taking their time to be here.

CHAIRMAN GAW: I think that's well said. Thank you.

JUDGE RUTH: All right. When we started -- I'm sorry. When we started this morning, I indicated that the parties would be given the opportunity for brief closing statements if they wished. The parties may want to waive that and just rely on the Briefs that were previously ordered. Is that acceptable to the parties? Do you want to have brief closing statements?

MS. SHEMWELL: I have approximately a one-minute statement, but I don't want to waive Briefs. We would like the opportunity to brief, and I believe Mr. Berlin may have just the briefest of statements, if that's all right.

JUDGE RUTH: Then we'll go ahead and do some closing statements and we'll start with Staff, Ms. Shemwell, if you want to go first.

MS. SHEMWELL: As you know, the Staff instituted a program with Laclede to replace their copper services in 2000. Since that time, Staff has actively

monitored the program, is not recommending any change in the program at this time, because we feel that the program is working, that it is very effective in protecting the public safety, that Staff's goal is to protect the public safety.

There has been a significant reduction in leaks, there's a very aggressive leak survey and detection program that is allowing Laclede to replace the copper services in a timely manner, those that are leaking, and we feel that the crucial goal of maintaining the public safety is currently being met by the program that is in place.

However, were Staff to determine at any time that we felt that the program needed modification, we would certainly bring that to the Commission's attention immediately with recommendations.

Now, there's been some discussion about resources today, and I just want to mention that it's Staff's understanding that as resources become available, Laclede will shift them, and they have currently been shifting them from one program to the copper service as was described. Yes? No?

I mean, we're seeing them be more aggressive in the copper service replacement program that's required by the stipulation, which means that they are devoting more resources to that than is required by the stipulation. That's all I have. Thank you.

JUDGE RUTH: Mr. Berlin?

MR. BERLIN: Yes, thank you. With regard to the unprotected steel main replacement program, we'd like to emphasize that concern for public safety is and has been the priority of gas safety staff and that the review of the application that Staff conducted, the application that's before you is but part of the continuing involvement of Staff to stay involved with monitoring the progress of such replacement programs, as indeed you heard earlier today.

I'd like to also point out that with the approval of the schedule, Laclede is committed to submitting to the gas safety staff an annual summary of corrosion leaks on unprotected steel mains after each year until all replacement are concluded. Since 1998, the required amount of annual replacement has not been defined in any Commission scheduled order. I'd like to make that point. But that the large majority of unprotected steel mains with a corrosion history has already been replaced.

Commission approval of this replacement schedule would, for the first time, require Laclede to replace the entire quantity of unprotected steel mains in the footage identified in Section (15)(E) of the Commission Gas Safety Rules, and the replacement schedule would require Laclede to replace any unprotected steel mains that are presently not covered by Section (15)(E) as -- and would

require Laclede to replace them as such mains are identified.

Reduced rate of replacement of unprotected steel mains, Staff believes, will provide Laclede the opportunity to more cost effectively manage and allocate its resources to competing higher priority programs. And finally, Staff's concern is that to advance the -- perhaps the unneeded replacement of unprotected steel mains that are indeed serviceable and safe would ultimately pose an unnecessary cost that would ultimately be passed on to the ratepayer. And that concludes my comments. Thank you.

JUDGE RUTH: Thank you, Mr. Berlin.

And, Mr. Micheel, do you have any closing statement for Public Counsel?

MR. MICHEEL: Not today.

JUDGE RUTH: Mr. Pendergast?

MR. PENDERGAST: Thank you, your Honor. We, too, would like to have the opportunity to file a Brief pursuant to the schedule that you set up, and based on the earlier discussion, am I correct in assuming that that Brief will be directed at the issue of is there enough evidence to move forward without additional evidentiary hearings with the company's application?

JUDGE RUTH: That would be one issue you could address. I would think you'd also want to put all the

pieces together for the Commission as to what support there is for the application.

MR. PENDERGAST: Certainly. Certainly. Right.

JUDGE RUTH: Application in one and the Staff rec in the other.

MR. PENDERGAST: But ultimately the Commission's going to decide whether to have an evidentiary hearing or whether to approve the application, as opposed to make a contrary determination.

JUDGE RUTH: It would be appropriate for you to include that type of discussion in your brief if you wish.

MR. PENDERGAST: Okay. Thank you. And that's the assumption I've been operating under throughout today's hearing. And as far as the merits are concerned, I think we've had a helpful discussion today, and a lot of information has been provided, in addition to what was provided in our original application and Staff's recommendations.

And I think it's not unfair to say that if you look over that evidence and that testimony, and the data that's been provided that, I don't believe it has been disputed to any extent by the other witness that appeared here today, Mr. Schulte, it demonstrates that we have made

tremendous progress on our bare steel program, that it was a program that was largely undertaken on the company's own initiative pursuant to its statutory obligation to provide safe and adequate service, and was substantially along the way to being completed by the time the Commission issued its safety rules in 1989.

But since that time we have continued to make excellent progress as reflected in the both absolute number of leaks that we experience on those facilities, as well as the proportionate number of leaks per 10,000 feet that we've experienced in those facilities that -- in seeking to have a 10,000 schedule established. And I believe as Bob indicated, that's the first time that you would have a schedule established all the way through the conclusion of the program ever.

It's always been incremental year amounts, that we've given you good cause to think that that's the appropriate thing to do, both from the standpoint of having confidence it will have no adverse impact on public safety, and having confidence it's a reasonable and prudent thing to do, taking into consideration the cost of these things that must ultimately be borne by the ratepayer.

As we've indicated, we don't see it having any significant impact on our manpower requirements. Certainly no layoffs are anticipated associated with this one change

that over time, as we get involved in more and more larger diameter, those requirements may even increase, but the bottom line is, it's a reasonable and appropriate thing to do for public safety, as well as taking into consideration the financial interests of your ratepayers.

And I just want to close by saying that I think both copper service program, as well as unprotected steel program, does provide a very good example of what utilities and Commission Staffs can accomplish when they work together. I want to reemphasize that we do have the highest respect for the Commission's safety Staff. I have my folks tell me all the time how much they're respected throughout this country, and obviously, I think the Commission can be very proud of what they do.

That doesn't mean we never have disagreements. We have in the past, and we probably will again in the future. But I just wanted to say that, and I think apropos the comment Commissioner Gaw may have made in agenda meeting, we look forward to be able to say the same thing about other Staff departments in the future as well.

So thank you very much. Appreciate it.

JUDGE RUTH: Thank you, Mr. Pendergast.

I want to just note for the record that Exhibits 1 and 2 were just offered for identification. I mean, I marked them for identification purposes. They have

not been admitted into the record, and the current briefing schedule directs that the transcript will be filed on Monday the 8th, and that Briefs would be due December 15th. I believe that's the following Monday.

MR. PENDERGAST: Your Honor, could I ask that they be admitted into the record, Exhibit 1 and 2?

JUDGE RUTH: Okay. I have forgotten which witness was sponsoring these.

MR. PENDERGAST: I believe that was Mr. Lauber who indicated he had prepared them and that they were accurate to the best of his knowledge and belief.

JUDGE RUTH: Exhibit 1, which is the average monthly leak backlog has been offered into evidence. Are there any objections to being admitted into the record?

Public Counsel?

MR. MICHEEL: (Shook head.)

MS. SHEMWELL: No.

JUDGE RUTH: Then Exhibit 1 is admitted.

(EXHIBIT NO. 1 WAS RECEIVED INTO EVIDENCE.)

JUDGE RUTH: Exhibit 2 is the average repair clamps installed per year per 10,000 feet. Are there any objections to this document being received into the record from Mr. Micheel?

MR. MICHEEL: No.

JUDGE RUTH: And from Staff?

MS. SHEMWELL: No.

JUDGE RUTH: Exhibit 2 is also received into the record.

(EXHIBIT NO. 2 WAS RECEIVED INTO EVIDENCE.)

JUDGE RUTH: And I believe the court reporter has copies of those documents. She's nodding her head.

That will adjourn this hearing. Thank you very much.

WHEREUPON, the hearing of this case was concluded.

I N D E X

EXHIBITS INDEX

	MARKED	RECEIVED
EXHIBIT NO. 1		
Average Monthly Leak Backlog	131	199
EXHIBIT NO. 2		
Average Repair Clamps Installed Per Year Average Repair Clamps Installed Per Year Per 10,000 Foot	131	200