

OFFICIAL CASE FILE

STATE OF MISSOURI
PUBLIC SERVICE COMMISSION

TRANSCRIPT

FILED

ON-THE-RECORD CONFERENCE

JAN 6 1995

PUBLIC SERVICE COMMISSION

OFFICIAL CASE FILE

CASE NO. : GO-91-277

In the matter of the review and approval of cast
iron main and unprotected steel main programs
for Missouri Gas Energy.

DATE : DECEMBER 29, 1994

PAGES : 1 TO 86a, INCLUSIVE (INDEX: 86a)

VOLUME NO.: ONE

OFFICIAL CASE FILE

Missouri Public Service Commission

STATE OF MISSOURI

PUBLIC SERVICE COMMISSION

At an On-the-Record Conference of the
Public Service Commission, held at
Jefferson City, Missouri, on the
29th day of December, 1994.

CASE NO. GO-91-277

In the matter of the review and
approval of cast iron main and
unprotected steel main programs for
Missouri Gas Energy.

BEFORE:

JOSEPH A. DERQUE III, Presiding,
HEARING EXAMINER.
ALLAN G. MUELLER, Chairman,
KENNETH McCLURE,
DUNCAN E. KINCHELOE,
HAROLD CRUMPTON,
COMMISSIONERS.

REPORTED BY:

GINGER R. SOMMERER, RPR, CSR
ANN K. SPRAGUE, RPR, CSR, CCR

Missouri Public Service Commission

APPEARANCES:

GARY W. DUFFY, Attorney at Law
Brydon, Swearngen & England, P.C.
P.O. Box 456
Jefferson City, Missouri 65102

and

BRAD ZIEGLER, Attorney at Law
3420 Broadway
Kansas City, Missouri 64111

FOR: Missouri Gas Energy.

LEWIS R. MILLS, JR., Deputy Public Counsel
P.O. Box 7800
Jefferson City, Missouri 65102

FOR: Office of the Public Counsel
and the Public.

WILLIAM M. SHANSEY, Assistant General Counsel
P.O. Box 360
Jefferson City, Missouri 65102

FOR: Staff of the Missouri Public
Service Commission.

Missouri Public Service Commission

P R O C E E D I N G S

(Written Entries of Appearance filed.)

EXAMINER DERQUE: We're on the record in Case No. GO-91-277, in the matter of a motion by Missouri Gas Energy to modify the cast iron main and unprotected steel main replacement and protection program which was first ordered by the Commission when this physical plant was owned by Western Resources, Inc. Missouri Gas Energy is a subsequent purchaser of the physical plant. And they have requested a modification of the original replacement and protection plan.

The Commission has requested this on-the-record presentation by Missouri Gas Energy and the Staff for purposes of explanation of the details of the modified plan. Present representing Missouri Gas Energy, by the way, is Mr. Gary Duffy; representing the Staff, Mr. Bill Shansey; and Lewis Mills for the Office of the Public Counsel. It's my understanding that the Office of the Public Counsel does not wish to make a presentation.

MR. MILLS: I don't have any formal presentation, no. But I'm available for questions.

EXAMINER DERQUE: Thank you, Mr. Mills.

We will begin the presentation at two o'clock because the Commission is in a conference call. I came in at 1:30 to do housekeeping chores.

Missouri Public Service Commission

1 Mr. Duffy, how many witnesses do you have?

2 MR. DUFFY: I'd say approximately six.

3 EXAMINER DERQUE: Do you want to present all
4 six of them? That's fine, if you do. •

5 MR. DUFFY: The way we had this structured
6 was that each person would get up. There's going to be one
7 person that's going to give an overview. And then we're
8 going to have three or four people give talks on specific
9 aspects. And then we'll have a couple people to kind of
10 summarize the end of it. I would guess that our part of it
11 would not take more than an hour.

12 EXAMINER DERQUE: Oh, that's fine. You may
13 take whatever time you feel you need. And I will have you
14 present your witnesses one at a time, have them come
15 forward, swear them in. And then they can make their
16 portion of the presentation and answer Commission questions
17 at that time.

18 And then, Mr. Shansey, you have
19 Mr. Leonberger from the Staff?

20 MR. SHANSEY: That is correct.

21 EXAMINER DERQUE: And he will go -- you will
22 make your presentation subsequent to Missouri Gas Energy?

23 MR. SHANSEY: Yes.

24 EXAMINER DERQUE: I think, at the end of
25 each presentation, in other words, when Missouri Gas Energy

Missouri Public Service Commission

1 is done, Mr. Duffy, you may briefly respond to any
2 Commission questions.

3 MR. DUFFY: If it's okay, I'll let the
4 people who know what they're talking about --

5 EXAMINER DERQUE: Well, I mean --

6 MR. DUFFY: -- as opposed to me.

7 EXAMINER DERQUE: Yes. Have your witnesses,
8 if you wish -- and I said "briefly" -- respond to the
9 Commission's questions, if you want.

10 MR. DUFFY: We've come prepared to try to
11 respond to any question the Commission comes up with.

12 EXAMINER DERQUE: I'm going to leave you
13 that alternative, if you wish. But, as I said, "briefly."
14 We're not going to engage in a great debate here.

15 And, Mr. Shansey, the same applies, of
16 course, to the Staff.

17 And I'll periodically, if you -- well,
18 Mr. Mills, if you don't wish to make any comments or
19 presentation, I'll let you alone.

20 MR. MILLS: All right. I'll get your
21 attention if I want it.

22 EXAMINER DERQUE: I'll look in your
23 direction once in a while.

24 Is there anything else I need to deal with
25 before I go get the Commission?

Missouri Public Service Commission

1 (No response.)

2 EXAMINER DERQUE: Then we'll begin -- the
3 Commission is in a conference call of some sort. And
4 they're planning on proceeding with the presentations at
5 two o'clock. So we'll be off the record until two.

6 (Discussion off the record.)

7 EXAMINER DERQUE: We're back on the record
8 in the matter of Case No. GO-91-277 concerning the motion to
9 modify.

10 Mr. Duffy, you may proceed.

11 MR. DUFFY: Thank you.

12 MGE appreciates this opportunity the
13 Commission has given to have this on-the-record conference.
14 We share your concerns fully about public safety with regard
15 to gas systems. What we want to accomplish today is to
16 assure you that the plan that we proposed in the
17 modification that we filed complies fully with public safety
18 and, in fact, enhances it over the level of the plan that is
19 in existence right now.

20 What we're going to do -- or what we would
21 like to do today is, we have five people who will put on
22 short presentations about where we got -- where we started,
23 where we're going, what the rationale for this is, what the
24 public safety aspects of it are.

25 We would encourage you to ask questions of

Missouri Public Service Commission

1 these people because the whole concept of us being here
2 today is that you can ask questions so you can articulate
3 the concerns that you have and we can give you the answers
4 that hopefully will satisfy your concerns about public
5 safety aspects.

6 If we can answer these questions
7 immediately, we're going to do so. If you want additional
8 data, numbers and things like that, if we have those
9 available, we're going to give them to you. If we need to
10 develop them, we'll develop them as quickly as possible and
11 give that to you.

12 But our goal is to fully satisfy any
13 concerns you have about this particular proposal somehow
14 compromising public safety, which we fully believe it does
15 not. And I believe the Staff shares our views on that.

16 You'll hear from Jack Cox, who will get up
17 and, give you an overview, an introduction of what we want.
18 You'll hear from Joe Diskin, who is in operations personnel
19 and will try to explain what we're doing in the field.
20 You'll hear from Paul Bennett, who will talk about some
21 design concepts. You'll hear from Bill Dean and Gene Dubay,
22 who will try to summarize and put into perspective what
23 we're asking here today.

24 If there aren't any preliminary questions, I
25 would call Mr. Cox. And I'll ask a couple of introductory

Missouri Public Service Commission

1 questions and get him to state his name and his experience
2 briefly. And then I'm just going to let him make his
3 presentation, if that would be okay.

4 I call Jack Cox to the stand.

5 (Witness sworn.)

6
7 JACK COX testified as follows:

8 DIRECT EXAMINATION BY MR. DUFFY:

9 Q. Would you state your name for the record,
10 please.

11 A. My name is Jack Cox.

12 Q. And by whom are you employed, and what is
13 your title?

14 A. I'm Assistant Vice President for Gas
15 Engineering for Missouri Gas Energy.

16 Q. And could you briefly state your background
17 in the gas business?

18 A. Okay. I assumed this job on February 1st,
19 1994, effective with the transfer of the Western Resources'
20 properties to Missouri Gas Energy. Prior to that, I worked
21 for one year with Western Resources, primarily in the gas
22 measurement area. I spent four years previous to that as
23 president of a small consulting engineering firm in Omaha,
24 Nebraska. And prior to that, for 22 years, I was employed
25 with People's Natural Gas, which is a UtiliCorp company, out

Missouri Public Service Commission

1 of Omaha, Nebraska.

2 Q. Mr. Cox, do you have some remarks in support
3 of MGE's motion to modify the replacement plan?

4 A. I do.

5 And my purpose here today is primarily
6 introductory. As Gary said, Joe Diskin is our field
7 operations vice president. He knows a great amount about
8 the details of the operations of these programs that we're
9 doing.

10 What I intend to do today is to just give
11 some introductory remarks. And then I want to give you a
12 picture of where we are on the bare steel and cast iron
13 programs as of the end of 1994. I know we're not to the end
14 of the year yet. But the construction season is over, and
15 we know where those programs are as of today.

16 Just as background, we believe, like you do,
17 that the public safety is a primary concern of all of these
18 programs. But we also believe that these programs aren't
19 necessarily static. We work with them. We develop
20 experience. We get new tools. We have more data to work
21 with, and we believe at those times that programs such as
22 this merit some type of review.

23 Our overall desire is to work with the Staff
24 and the Commission to operate those programs in the best
25 manner possible, and we want to establish and maintain that

Missouri Public Service Commission

1 working relationship.

2 As far as the categories go, which is the
3 primary reason we're here, those categories were set up
4 several years ago. And they were based on the information
5 that was available at the time. We do not disagree that
6 they were probably the best definition of the hazardous
7 areas of piping that existed at that time. However, we've
8 worked with the system extensively since that period of
9 time. We've put in a lot of miles of cast iron pipe. We've
10 taken care of a lot of miles of bare steel main, either
11 through replacement or protection. And based on that
12 experience that we have and some new tools that we've
13 gotten, we think we know more about how to do it than we did
14 back when this program was originally filed. And we have
15 more information to work with.

16 Operations and engineering have worked
17 together to develop new procedures and tools since then,
18 which I'll summarize briefly. And then Joe Diskin has more
19 details on them to follow.

20 And really based on the program status,
21 where we are today, the tools we have and how we use them
22 and the experience of the company and the Staff in working
23 with this program for a couple of years, that's our reason
24 for coming here and asking you to approve a modification
25 program.

Missouri Public Service Commission

1 What I'd like to do now, I've got a couple
2 of charts up there, and I'd just like to review the progress
3 of where we are on some of these programs so you can see it.
4 I think we filed results -- or Western Resources did for the
5 end of 1993. We've got another construction year under our
6 belt. And we've got our results in for 1994. I've got them
7 up here in graphical form. We'll also file the reports that
8 we need to file that tell you numerically where each of
9 these projects is.

10 So if I can stand up here, this graph here
11 (indicating) is really the bare steel protection program.
12 Various categories are portrayed here. And Joe will talk
13 some about the categories and how we decide where all the
14 work is done. But what I really want to focus on, in the
15 bare steel reduction program, the real objective is to get
16 bare unprotected steel pipe out of service.

17 And if you'll look, this particular graph in
18 red, for total on bare steel, it shows, out of the program
19 itself, 337.90 miles due to be removed in the total program
20 by the end of 1994. In actuality, we've removed 377.6 in
21 this -- up to this calendar year as of this date, some
22 40 miles over the total that was outlined in the plan.

23 COMMISSIONER KINCHELOE: What are the
24 categories?

25 MR. COX: The different categories here,

Missouri Public Service Commission

1 this is what's called P&P, which is pavement and public
2 areas. This one is bare steel removed along with the
3 service line replacement program -- or protected rather.
4 This is independent. And I'm going to need a better
5 definition of that.

6 MR. DISKIN: Wherever it may be.

7 MR. COX: This is really just independent of
8 other categories. And then this is the total here of the
9 bare steel pipe that has been put under cathodic protection.

10 COMMISSIONER KINCHELOE: Thank you.

11 MR. COX: This is the cast iron replacement
12 categories or replacement program again. Totaled through
13 the end of 1994, the program specifies 76 miles to be
14 replaced. We have at this point replaced 77.43 miles of
15 cast iron pipe in total.

16 Again, we have similar categories here.
17 This first category on the left is four-inch and smaller
18 pipe, again, in paving and public areas. This is pipe
19 greater than four inches in paving and public areas. This
20 is greater than four inch in other areas, whatever they may
21 be.

22 This category here is pipe that we would
23 replace due to public works projects going on in the same
24 area. If somebody is redoing a main street in Kansas City,
25 Missouri, for instance, we may have to go in there and

Missouri Public Service Commission

1 replace pipe as a part of that program.

2 And this last category down here is what we
3 call FPI/CPI. That's facility priority index and
4 construction priority index. This is an area where we look
5 at various factors that affect the pipe, the number of
6 breaks, the types of soils, and so forth, and try to make an
7 informed decision of what needs to be removed based on what
8 we know about that pipe in the ground.

9 So in total we've exceeded the program by
10 about a mile and a half at this point.

11 COMMISSIONER KINCHELOE: What are the lines
12 there? Are those different years?

13 MR. COX: These lines in the middle? This
14 is -- if you remember, this program was put into effect the
15 last quarter of 1992, if I remember correctly. This is
16 through the end of 1993. That's what these hash marks are,
17 and this box up here is calendar year 1994.

18 COMMISSIONER McCLURE: Mr. Cox, this
19 question may be better directed to someone else. But
20 looking at the plan as it was approved in '92, the only
21 remaining category from 1995 on out to 2000 that shows any
22 work yet to be done would be the greater than four inch. It
23 shows 32 miles in '95 and 36 miles each succeeding year.
24 But all the others, according to the plan previously
25 adopted, should have been completed by this quarter. Do you

Missouri Public Service Commission

1 know if that's pretty much where the company is?

2 MR. DISKIN: No.

3 My name is Joe Diskin, Vice President of
4 Field Operations. That was the graph that Jack was showing
5 you earlier.

6 (Witness sworn.)
7

8 MR. DISKIN: The thing from '95 on is four
9 inch and less, is what we're showing in the program to do.
10 And what we want to do is change the program that it may be
11 more than four inch, maybe some size larger than four inch
12 instead of just four inch or less, for the reasons I'm going
13 to show when I give my presentation.

14 We've been visiting with the Staff through
15 the years, the last couple of years, and we've talked about
16 this and we've known that we just had to follow that as a
17 time of when -- where we was at. That's why we came in here
18 today.

19 COMMISSIONER McCLURE: I don't mean to jump
20 ahead of your presentation, but I just wanted to raise a
21 question while we were here.

22 MR. COX: And we won't ignore you. It's
23 just that there may be other people better equipped to
24 answer in certain areas.

25 EXAMINER DERQUE: That's fine.

Missouri Public Service Commission

1 MR. COX: Those are really -- that's really
2 the status of the two programs we're talking about. I've
3 got a couple more charts on here I want to show you just as
4 background support, hard data as to why we believe the
5 change is reasonable.

6 This is a chart of leaks on hand. Now, this
7 is really just a leak inventory at the end of the year,
8 total leaks on hand. If you're familiar with the leak
9 categories, these would be primarily, almost all
10 Category 3 and Category 4 leaks. Category 4 being those
11 leaks that we need to monitor but don't have a particular
12 time frame to repair them because they're not in a dangerous
13 area or they're not of any size of consequence. The others
14 in there would be Category 3, which we're required to repair
15 within three years.

16 The top leaks will not show up very much in
17 inventory because we have to repair them as we find them.
18 Category 1, immediately; Category 2, within 15 days. So
19 they won't show up in a continuing inventory. What I wanted
20 to point out was the declining trend of leaks, which is some
21 indication that the system is improving.

22 A piece of information which I think is --
23 I'll just -- to go with numbers, this is thousands
24 (indicating). At the end of 1989, there were close to
25 30,000 leaks logged on the system, primarily again threes

Missouri Public Service Commission

1 and fours. At the present time it's right at 15. Cut in
2 half.

3 COMMISSIONER McCLURE: That would reflect
4 leaks reported to the company plus those that company
5 personnel find themselves?

6 MR. COX: It would reflect all leaks that we
7 know about. And those -- for instance, you know, a No. 4
8 leak in 1989 would also show up in 1990 and 1991 because
9 it's not scheduled to be fixed. A Class 3 leak that we just
10 found in 1990, if we don't fix it due to some other program,
11 could conceivably stay on the books for five years because
12 it's not in an area of high hazard. But they're required to
13 be replaced within five years.

14 Now, this is the 1 and 2 leaks (indicating).
15 And this is not an inventory because in this category what
16 we find we fix. The only possible carryover you could have
17 in this type of category of leak would be if you found a
18 No. 2 leak between December 16th and the end of the year.
19 If you've got 15 days to fix it, it conceivably could carry
20 over year end. But, in fact, that number would be very
21 small.

22 So this is really a representation of
23 hazardous leaks found and fixed. And the number here is a
24 bit over 9,000. The number here is 2,900. And that's
25 what's happened over the period from 1990 to 1994. And we

Missouri Public Service Commission

1 believe that's reflective of improvements in the gas system.

2 EXAMINER DERQUE: Mr. Cox, perhaps I'm ahead
3 also. But on both those leak reports, there's a significant
4 difference between the years '90 and '91. What happened to
5 cause that difference?

6 MR. COX: Joe, being in operations at that
7 period of time, doing this work, would probably be better.

8 EXAMINER DERQUE: Okay.

9 MR. DISKIN: What happened in that time
10 between 1989, 1990, and 1991, the occurrences we had started
11 in '88 and '89, started Thanksgiving, around Thanksgiving of
12 '88 was the first one I was involved in.

13 EXAMINER DERQUE: The what you had?

14 MR. DISKIN: The occurrences, where we had
15 the occurrences over the past.

16 We started doing an extensive leak survey
17 program where we went through and surveyed all of our
18 service lines, every service line we had, and all of our
19 bare steel mains and all of our cast iron. We tried to do
20 it within a year's time frame.

21 So our leaks went up in '89 and in 1990.
22 Then we started working them and we started identifying the
23 areas because we had a better source of identifying the
24 areas. So we started identifying the areas where we had a
25 large concentration of leakage. And through leakage

Missouri Public Service Commission

1 reduction and cathodic protection service line replacement,
2 our -- went down.

3 MR. COX: I think what we're saying here is,
4 if you go back a few more years -- and I don't even know if
5 we have that data. We may. -- the leaks may have looked
6 lower because the survey practices were not what they were.
7 I mean, we started in 1989 and 1990. In this time frame,
8 when you start doing that, there was a mandated extensive
9 leak survey done back in this time period which -- with new
10 instrumentation which, I think, made a real definition of
11 where these leaks were at that period of time.

12 So when the programs start kicking in,
13 that's where we start demonstrating the proper --

14 • MR. DISKIN: Jack.

15 Another thing is we're still surveying the
16 same areas. If it's bare steel, we're still surveying the
17 same areas. We just -- with our program of what we're doing
18 with our bare steel replacement program and our cast iron
19 replacement program, our service line replacement program,
20 we're eliminating, we're dropping down the total amount of
21 leakage. It's not that we done the survey in '89 and then
22 do it again for 1990. We're continuing doing the same
23 survey.

24 EXAMINER DERQUE: I understand.

25 COMMISSIONER KINCHELOE: Mr. Cox, before you

Missouri Public Service Commission

1 turn that one, I assume that for any system, you have a
2 certain number of -- there would be a certain number of
3 hazardous leaks reported annually per mile or on some basis.
4 What's a reasonable norm in the industry or a target that
5 you'd be trying to achieve? Can you give us a number?

6 MR. COX: I don't have a number to a
7 reasonable target nationwide.

8 MR. DISKIN: I don't either.

9 MR. COX: There may be some areas where we
10 can look. There may have been some of that research done
11 when the program was started, but I don't have it today.

12 One other thing that I would also mention
13 here, of these leaks, all these leaks are not due to
14 deterioration of the system or cast iron breaks or something
15 else that's wrong with the system. I believe that in 1994
16 that a third of these breaks, or over 1,000 of them out of
17 the 2,900, were due to somebody hitting our pipeline;
18 outside interference, contractor hits. So that type of
19 information may not have been kept back here.

20 If you take it back proportionately, then
21 there's a hunk of these, a piece of each one of these, that
22 really those leaks are occurring not because the system is
23 going bad or because there's problems with the pipe,
24 somebody digs a hole in it, and when they dig a hole in it,
25 if you'd knock out a piece of four-inch main, I'd guarantee

Missouri Public Service Commission

1 you've got a 1 or 2 leak, probably a 1. We would have to
2 fix it right now.

3 So there's a piece of those that we haven't
4 tried to farm out or had to try to separate out. And that
5 may be good information also, if we can pull it back from
6 here.

7 COMMISSIONER KINCHELOE: But you don't know,
8 for your service territory and system, how much further we
9 should hope to see a reduction from the 2,900?

10 MR. COX: I don't today, no.

11 This is the last piece of information I
12 wanted to put up before Joe talks. And really this is just
13 kind of a preamble to what he's going to say. When this
14 program was initiated and when the occurrences that Joe was
15 talking about happened, it was very evident that there
16 needed to be some type of process, some type of tool,
17 something out there that we could use to make informed
18 decisions about what we're doing. The categories were
19 everybody's best judgment at the time.

20 As you go through this, you come up with
21 ideas about, what have we got out there where we can analyze
22 the system. And this is just a listing of some of the
23 things we've got. I'm not going to go from the top down.
24 But from here down, these are our data bases. We have put
25 in extensive data bases that tell us what our cast iron

Missouri Public Service Commission

1 break history looks like, our main -- what our leaks look
2 like by type, by location, the information we need to know
3 about leaks.

4 We have a data base on all of our mains that
5 tells how many feet, what it is, where it is, how big it is.
6 And then we have -- our premises data system really talks
7 about our -- it's not pertinent to the mains. It talks
8 about our service lines.

9 Up here are other things we use when we're
10 working with the system. The corrosion control maintenance
11 system, I think, is important. This is a computerized
12 system where the people in the field, when a piece of pipe
13 is repaired or replaced and brought under protection, their
14 test station is put on it, that's all recorded in this
15 maintenance system. I don't know how much you know about
16 corrosion control. But basically you have to main -- a pipe
17 to soil potential, a voltage potential of $-.85$ or higher for
18 the pipe to be under protection.

19 We have test stations out there where we
20 continually measure those according to a schedule that's in
21 the rules and regulations on how we're supposed to do
22 business. We monitor those. And it not only tells us that
23 we are -- excuse me. -- that a piece of pipe is under
24 protection, it's also a pointer telling us if the readings
25 start to deteriorate, if we're above $-.85$ and they start to

Missouri Public Service Commission

1 deteriorate, we can see an area where we need to concentrate
2 our efforts.

3 The stoner system, this is actually a
4 network model of our system where we have the pipe laid out.
5 We know the pressures. We know the gas flows in it. We
6 know the volumes in the system. But if we're doing
7 construction in the area or if we're looking to add a new
8 customer in the area, we can determine whether the system
9 can handle it. We also use that when we go in to design new
10 piping in an area where we're replacing mains.

11 It doesn't make sense. And Paul Bennett
12 will talk some about this. If you've got four-inch cast
13 iron pipe in there, it doesn't make sense to go in and put
14 in four-inch plastic. We can use this model to tell us what
15 we need in the base to make the system work.

16 We've got an extensive computer mapping
17 system under development. Some of it you'll see in a
18 further exhibit which has got a great amount of our area
19 mapped on a computer system. And those maps are all tied to
20 our data bases.

21 We have done, in the last few years, an
22 extensive soil analysis. And the real reason for that is,
23 there are areas around Kansas City that have expansive clay.
24 And that probably means as much to you as it does to me.
25 I'm not a soils expert. What I do know about expansive clay

Missouri Public Service Commission

1 is, if you've got cast iron mains in the expansive clay,
2 that's an area where there may be a problem. It doesn't
3 guarantee that it's a problem, but there may be a problem.

4 I talked about the priority indexes before
5 on a previous graph. The cast iron coupon analysis, when we
6 expose a cast iron main under certain circumstances, we take
7 a look at it, if there's anything doubtful about it, we can
8 actually punch a coupon out of that pipe. We have it
9 analyzed, and it tells us where that pipe is deteriorating.

10 So it gives you an idea: Do I need to fix
11 this? Do I just need to patch it and go on? So I don't
12 want to go into a lot of detail on these because Joe is
13 going to talk about them and tell how they fit in the
14 construction program.

15 Unless you have any questions on the area
16 that I've covered, I'd like to let Joe talk about how the
17 actual construction of the system works in this area.

18 (Witness excused.)

19
20 MR. DUFFY: I call Mr. Diskin.

21 EXAMINER DERQUE: Mr. Diskin, you're still
22 sworn.

23 JOE DISKIN testified as follows:

24 DIRECT EXAMINATION BY MR. DUFFY:

25 Q. Would you state your name for the record,

Missouri Public Service Commission

1 please.

2 A. Joe Diskin.

3 Q. By whom are you employed?

4 A. Missouri Gas Energy.

5 Q. And what is your title?

6 A. Vice President of Field Operations.

7 Q. Could you give me a brief history of your
8 experience in the gas industry.

9 A. I started with the old Gas Service Company
10 back in the '70s, early '70s, in Pittsburg, Kansas. And
11 then in about '74, I was transferred to the general office
12 and I was in charge of the safety. And then for a while, I
13 was in charge of claims. Then in '79 I went out to the
14 field operations -- well, okay.

15 I used to go out to the division and make
16 division business inspections. Then in '79 I was sent to
17 Kansas City, Missouri. I've been in the construction
18 department and messed with field operations ever since that
19 time. In February of this year, Missouri Gas Energy came
20 in. I was promoted to Vice President of Field Operations.

21 So when these plans came together, at that
22 time I was Director of Construction. We had a vice
23 president that left right directly thereafter. And it was
24 really my responsibility to tie these plans together, to try
25 to come up with a systematic way to get this work done. And

Missouri Public Service Commission

1 I was told at the time when we done this that the utmost
2 importance was safety to the customer and the public. And
3 the other thing is, to do and take care of the main in an
4 area that you feel needs taken care of the worst first.

5 So what we done was, we went back and done a
6 lot of looking and studying. Back in 1990, before -- when
7 we started in the service line replacement program, we had
8 801 miles of unprotected bare steel. We started then
9 looking at what we needed to do to better our system.

10 And so I want to talk first about what we
11 done with reference to our cast iron and our unprotected --
12 not our cast iron. I'm sorry. -- what we done with our
13 unprotected steel mains and our unprotected steel service
14 lines, what program, how we put it together, how we
15 implemented it, and how we changed it.

16 We're going to talk about how the areas were
17 identified. We got together with people from engineering,
18 our field op people. We spent a lot of time with our field
19 supervisors and department heads. And one of the things
20 that was of concern to us -- and it was also a concern to
21 the Staff -- was that the meters that set at the house, we
22 had higher pressure mains, higher pressure running to the
23 meter, and the meter service line had been run by either the
24 customer or a plumber.

25 So we targeted those areas first which had

Missouri Public Service Commission

1 unprotected steel mains and had meters at the house with a
2 higher pressure main or higher pressure service lines
3 running to them.

4 We also looked at leakage trends and due
5 dates. We looked at areas in past leakage, present leakage,
6 what the due dates were and where we had leakage. We also
7 worked with the cities on street improvement programs and
8 the state and the county on what they were doing. We knew
9 that to do this -- and we're starting -- at first we were
10 starting to have trouble with the people because -- with
11 customers in the city. We'd go in and we'd do four or five
12 and we'd leave.

13 In early '89 -- in late '88 and early '89,
14 when we'd find No. 1 and No. 2 leaks, we'd go in and fix
15 them. Then we'd leave. And then we'd come back later and
16 do something else. And the people were getting upset.

17 So we knew that we had to do something, to
18 go into an area, clean that area up, make some right faces
19 around the block and get out of there and fix all the leaks,
20 No. 3 leaks we had on hand, replace the service lines that
21 we had of unprotected steel, and protect and replace the
22 mains. So that was our criteria then. We started looking
23 at doing all those at one time.

24 So we knew that we wanted to protect the
25 steel that had significant useful life. We knew by -- or

Missouri Public Service Commission

1 first in late '88 and '89, that a lot of the mains that we
2 went down, onto to renew the services on, that the protective
3 level was up. It was reading a -.85 or above what would be
4 normal reading. It was a stagnant reading.

5 We've been putting anodes on since the early
6 '50s. So we made the decision then that if the main was
7 being replaced -- if the service line was being replaced,
8 that we needed to look at the main and we needed to bring
9 the main underneath cathodic protection.

10 We also tried to put forth every effort to
11 repair the leaks on the main as the service line was being
12 replaced. We checked for electrical continuity between each
13 service hole. We had service holes opened between 50 and 75
14 feet, depending on the population area. When we opened up a
15 service, we'd check the continuity from one hole to another,
16 we'd check the protective level, and then applied the proper
17 cathodic protection that we needed to at that place.

18 Then our question was -- just came up to us
19 in talking with the Staff, that one of the questions we came
20 up between us, were we protecting a main that really maybe
21 should have been replaced. Well, we thought about that.
22 And we tried real hard to look at different things, so we
23 knew we was exposing a main every 50 feet.

24 And we knew we was taking a look at a main
25 and seeing the condition of the main at that point. We had

Missouri Public Service Commission

1 a past history of the mains. And we knew some protective
2 level had been applied and had been applied since the early
3 '50s.

4 And we had the 553 program, which had five
5 leaks and 500 feet in the past three years that we'd been
6 doing in the past. And we knew the main was in pretty good
7 shape. And since the mid-'70s, any time that we exposed a
8 bare steel main that was not in protection, cathodic
9 protection, we would put it underneath protection at that
10 time.

11 Well, so what happened was and what we found
12 out doing this was that we did have to replace some main.
13 But primarily that main was a main that had had a lot of
14 work done on it before that we never did get protected or we
15 had some street crossings and some main underneath driveways
16 where we had leaks on and it was really better to go back on
17 each side of the driveway and renew it across the driveway
18 instead of tearing the driveway up or at a street crossing
19 doing the same thing. So we replaced a lot of short pieces
20 where maybe, in the years past, we may have replaced longer
21 pieces. Maybe what we done in years past was not right.

22 Then after we got done with the service line
23 replacement and the main protection and replacement in those
24 areas, we went out on 15-foot intervals and took pipe to
25 soil readings to make sure that we had a protective level on

Missouri Public Service Commission

1 the system. We also made sure, after we had that protective
2 level, that we run at least one more leak survey over that
3 area to see if we had any type of problems we weren't aware
4 of. Then we corrected them and made whatever modifications
5 we needed at that time.

6 And we'll continue to monitor these areas
7 that we brought underneath cathodic protection through a
8 leak survey on a three-year basis or, if it's a public
9 building area, on a yearly basis or more often than that and
10 also on cathodic protection reading. So that's basically
11 what we done on our bare steel mains and service lines.

12 One of the questions that came up was, the
13 areas not in compliance as far as the code on the amount of
14 pipe we done per area. Mr. McClure asked that awhile ago.
15 What we found out when we got out there and after '89 -- and
16 I was Director of Distribution -- was, we found out some
17 things then that maybe everyone didn't know about because
18 they didn't really consult the field people too much at that
19 time about really what was going on in the field.

20 We found out that we really had a lot of
21 useful pieces of pipe out there because of what the company
22 had done way back in the '50s. And we talked to the Staff
23 in relationship with that. And we came in to them and said,
24 "Hey, listen. We know what the Order says. And we want to
25 comply by what we're doing. But here's what we're finding

Missouri Public Service Commission

1 and here's where we think we should go next year. And this
2 is the reason why we should go there." And they looked at
3 it. And their concern was the same as ours, to get rid of
4 the worst area first because we're going to talk about --
5 and we done this both in bare steel and also in cast iron.

6 With cast iron mains, in the years past,
7 since I can remember -- I've been with the company since the
8 '70s -- really our only criteria on replacing cast iron
9 mains before the late '80s was really if you had three
10 breaks in a block or two in an intersection. And we're
11 still using that today to take care of anything that we
12 think we've got immediate danger with. The other area we
13 had at that time, if the main had been undermined either by
14 a sewer or someone digging around it, that was the only
15 other time we really looked at cast iron main replacement.

16 In '88 we had an incident at 6906 Longview
17 Road. And I sat in this same chair. And we had a cast iron
18 main broke. And we had 30 pounds on it. And one of the
19 things was, someone dug around it. And so we went back and
20 we went back -- in February of '89, we went back and
21 surveyed our system. And we took -- we tried to find and
22 locate and identify all four-inch and smaller cast iron
23 mains that operated at a higher level than a pound and a
24 half.

25 Today we've eliminated all that main in

Missouri Public Service Commission

1 Kansas City, Missouri, that operates above a pound and a
2 half except for about 700 -- all of the four inch and less
3 in size where we have one stretch of main six inch, 780 feet
4 of it, that operates at four PSI. That means it has no
5 existing leaks and has no previous breaks.

6 We have two other areas in the company that
7 we're aware of that has some higher pressure mains and a
8 small diameter. And that's in Excelsior Springs. We've
9 been on our survey. And we talked with the Staff in
10 reference to that. It's a higher pressure. We think that's
11 more of a priority than some of the other priorities that
12 was listed.

13 We went into Excelsior Springs. We've
14 eliminated better than 50 percent of that, and we should be
15 able to eliminate the rest of it in 1995. We have
16 approximately 300 feet of four inch in Blue Springs that
17 runs at 15 pounds. We have it scheduled to replace in the
18 first quarter, weather permitting, 1995. So that's one of
19 the reasons that we change. We done that by visiting with
20 people and looking at our experience of what we found.

21 Graphitization, we had graphitization. And
22 one of the problems with graphitization is really -- it's
23 really just a glue that holds the metal together. If you
24 lose the nickel out of it, the pipes become like lead and it
25 doesn't hold.

Missouri Public Service Commission

1 So in 1990, from May of '89 through
2 September of '90, we took some 327 coupons and had them
3 evaluated. And we could not find anything that -- we didn't
4 find any common denominator with those where we had a lot of
5 graphitization. We found out we didn't have a lot.

6 So now what we do -- presently what we do on
7 graphitization is that, if we expose a main for some reason,
8 and we check it for graphitization, from visual examination
9 and using a different way, but mostly visual, if we have any
10 question about it, if we think it isn't good, our crew will
11 pull a coupon. They have latitude to pull a coupon at that
12 time. And we'd send it out and get it checked. And we've
13 had 30 or 40 checks in the last 12 months.

14 If we have a broken main, and for no reason,
15 we have no reason why the main broke, we'll take a coupon
16 from that location and have it checked and see if there's
17 anything. So after these other things -- so these are
18 things we've done so far.

19 And, also, we found out since 1971 we're
20 required by the Commission to keep track of all main breaks.
21 We've kept track of them, but we haven't done a lot with
22 them except for the 553 that I was talking about. We read a
23 lot of articles when this came out on what other companies
24 have found with reference to cast iron mains. And one of
25 the things that other companies have found, the articles and

Missouri Public Service Commission

1 periodicals and stuff that we've read, was that mains,
2 primarily the cast iron type, broke into smaller diameters,
3 broke generally in clusters in areas, for whatever reason,
4 and generally the soil subsidence was a big reason.

5 But a soil study with expansive clay was
6 another thing that other companies looked for. And cast
7 iron, like steel, if it's in an area where you have
8 driveways and it enters and exits under driveways and
9 streets, comes back out in the dirt, that's another place
10 that you need to be aware of and watch for continuous
11 breakage. So what we done -- I'm sorry. I'm getting ahead
12 of myself.

13 In public works, if someone digs around
14 it -- that's another thing that came up even on the Longview
15 project. We came back. If someone digs around it. So we
16 done a lot of studying back on who had dug around the main
17 and where at and looked at it. But another thing that we
18 found out that we don't read in any of the articles is that
19 the weather, besides the cold weather, floods has got a lot
20 to do with what happens.

21 With the floods in '88 or in '93 -- we had
22 floods in '93. And in the industrial area where the old
23 stockyards used to be in Kansas City, we had rooms probably
24 15 -- 10 to 12 feet deep, 15 to 20 foot wide, washed out
25 from underneath. Where the sewers were, the water got into

Missouri Public Service Commission

1 the sewers and washed the sewers out. But I'm sure you're
2 aware of that.

3 I'd never seen that happen before. So we
4 knew at that time that that was an area close to the river
5 that we needed to look at. So we came over and talked to
6 the Staff. It wasn't in one of these priority areas, high
7 priority areas we didn't hit. We came and talked to the
8 Staff and told them what we had and said, "Hey, this is one
9 area that we've got to concentrate on."

10 Another area was, in the same time frame,
11 was off the Southwest Boulevard area. The water got in it.
12 The pumps didn't work in that area. It caused water to get
13 in the main. It caused it to get into a certain part of
14 town. And we had a continuous amount of freezeoffs in
15 1980 -- I mean, 1993 and in 1994, even some this year.

16 That was another area that we prioritized.
17 that wasn't in the area -- in one of those areas that they
18 had prioritized, that we thought, that we felt, because of
19 the freezeoffs and the water in there and the inconvenience
20 to the customers, what could happen, that was another area
21 that we should get rid of. And so we talked with the Staff,
22 and that was one of the things that we were going to do in
23 1994. And I'm glad to tell you that that has been
24 accomplished.

25 From then on, we think we have a lot of

Missouri Public Service Commission

1 record. But we think one of the best records we have was a
2 record -- was a break profile. So what we done, we put
3 together sectors, which is a mile square, and we put the
4 footage and type of main, the number of service lines and
5 type, the leakage existing, the breaks on the cast iron by
6 its size. Then we started looking for other common
7 denominators: What is something that causes this? Where is
8 something we need to look at? What's the common denominator
9 we need to look at when we try to prioritize what mains we
10 need to replace?

11 And I talked about some of those before.
12 And one of them is entering and exiting underneath
13 driveways. But that all comes back to one point as breaks
14 per area. But we took those breaks. And since 1971 we had
15 24 years of experience on those. Since 1970. We started in
16 '71. We had 24 years of experience.

17 And we broke those into a 24 year, and let's
18 say we had 1.58 breaks per mile of main. We found out that
19 generally, in the first 12 years, you had about 1.58. And
20 in the next 12 years you had 1.58. In areas where we didn't
21 have that, we found out that maybe some of our breaks was
22 caused by third party damage. But when we was talking about
23 something we didn't know, it was generally the same. So we
24 thought that was a common denominator.

25 So after we done that, then we prioritized

Missouri Public Service Commission

1 them by miles. So we looked at these breaks per mile. And
2 then we say, okay, this is the area we go to look at. Then
3 that's not the only thing that we used. We looked at the
4 traffic pattern. We looked at leakage in the past. We
5 talked with engineering. Then we go out, and we break that
6 area down smaller. We got a mile square, but we may just
7 have a quarter part of that section of that mile that we've
8 really got the problems. So we look at that, and we make a
9 determination and work through engineering to determine
10 where we're going to go.

11 My feeling is, since we first started back
12 in '89, before this main replacement came in, we've
13 developed a lot of tools to help with our decision making to
14 identify the pipes to replace. And one of the biggest
15 things is the input that we use now to input and the field
16 supervisors and the workers. We've used a cast iron coupon,
17 the leak data base, a construction priority index, soil
18 analysis, stoner models, working with the cities and
19 counties and state governments on what they're going to do
20 in public improvement programs, the cast iron break data
21 system, and the computerized map can let us know where this
22 is at.

23 And we discussed with the safety staff in
24 '93 and '94 about what we were going to do and why and feel
25 that the categories was a good way to start maybe back when

Missouri Public Service Commission

1 they started it. But now that we have more information and
2 tools to use, we need to get away from the categories as
3 such and look for areas for reasons that I just stated
4 above. Maybe not have them in categories but have them on
5 why we think they should be replaced and used, and would be
6 proactive instead of reactive. We should use all the tools
7 we have available to help us make decisions to keep a safe
8 and reliable system.

9 When I finish, if you have -- if you don't
10 have any questions. But after I finish I'm going to ask
11 Paul Bennett to speak with reference to some of the things
12 the engineering are doing in helping field operations in
13 making these determinations. Does anyone have any
14 questions?

15 QUESTIONS BY COMMISSIONER KINCHELOE:

16 Q. I believe you said at one point during your
17 testimony, sir, that it was your belief, that the
18 Commission's priority was of -- well, that the utmost
19 concern in priority is the safety of the public?

20 A. Right. Well, I may have said that. I think
21 that's the Commission's and our concern both.

22 Q. And is it your belief and recommendation
23 that the proposal that's being made here respects that as
24 the continuing priority of the company and the Commission?
25 That is the utmost --

Missouri Public Service Commission

1 A. Yes, I do.

2 Q. -- priority, is the safety of the public?

3 A. Yes, I do.

4 MR. DUFFY: I'll call Mr. Bennett.

5 EXAMINER DERQUE: Just I second.

6 Thank you.

7 (Witness excused.)

8
9 MR. DUFFY: Do you want to go ahead and
10 swear Mr. Bennett and Mr. Dean and Mr. Dubay all at once?

11 EXAMINER DERQUE: No, I don't.

12 MR. DUFFY: All right. I call Mr. Bennett.

13 (Witness sworn.)

14
15 PAUL BENNETT testified as follows:

16 DIRECT EXAMINATION BY MR. DUFFY:

17 Q. Would you state your name for the record,
18 please.

19 A. Paul Bennett.

20 Q. By whom are you employed?

21 A. Missouri Gas Energy.

22 Q. And what is your title?

23 A. Manager - Field Engineering.

24 Q. And could you give me a brief resume of your
25 experience in the gas industry.

Missouri Public Service Commission

1 A. I have worked in the gas industry for
2 approximately 15 1/2 years, holding various positions, both
3 in field operations and engineering, through that period of
4 time.

5 Q. Do you have a statement to make this
6 afternoon?

7 A. Yes. I'd like to do some follow-up to
8 provide you some more information relative to some of the
9 efforts that we go through as far as coming up with a design
10 and some of the situations that we run into relative to
11 being able to fit the systems together and make sure they
12 work and serve the customer efficiently.

13 I've got a couple drawings I'd like to show
14 you. I'm hoping that -- make out the first couple. I
15 apologize for the size. But the drawing we have here
16 (indicating) is -- this is our stoner model of the low
17 pressure system in Kansas City, Missouri. This is the cast
18 iron that is within the city. Basically, the river is here
19 about 75th, 81st Street, down here. And then it goes from
20 state line over about seven miles to this direction.

21 On this graph what I -- or representation,
22 I've tried to show how the larger diameter mains that we
23 have kind of work in loops, square miles of the system. And
24 then we've got, inside those square miles, a smaller
25 diameter. We predominantly have eight- and twelve-inch size

Missouri Public Service Commission

1 lines for the looping system and then four- and six-inch
2 that are intermingled. And then, really, to get to the
3 discussion that Joe mentioned relative to how do you fit all
4 those pieces together, this one makes it a little bit more
5 apparent (turning page).

6 On this one here, the black is the
7 eight-inch and larger mains. The red and the blue are the
8 four- and six-inch lines that exist within the system. So
9 you can see, all the way through the system, we basically
10 have an intermingling of those sizes of pipe. So the
11 question is, once we have an area identified with breakage
12 and other things that the field has come up with, how do we
13 then go through and figure out how we're going to design the
14 system to make sure it still operates efficiently.

15 I'll give you one other piece here as a
16 little better representation. Say this might be 43rd and
17 Summit or a couple streets in Kansas City, we might have a
18 head or main that's out here that's six inch, but we have
19 four inch intermingled with it. So as you go through
20 replacing the services, go through and look at some of the
21 four-inch cast iron and six-inch cast iron, there is no real
22 good way that you can just replace a piece here or a piece
23 there. So that really is part of the guts of why we're
24 trying to look at replacing it as a unit together in a
25 systematic approach to work through the system.

Missouri Public Service Commission

1 When we go through the system, some other
2 things that we look at and take into account in the design,
3 we look at previous leakage that has occurred in the system.
4 As was mentioned earlier, we have the leakage data base
5 where we can go back and research what kind of leaks that we
6 had on the system. We can see what's still active out
7 there, which pieces might have to be replaced as part of a,
8 say, two or three square block area or a mile square area,
9 you know, what do you do in that system.

10 We look back at old work report records,
11 which basically every time we expose a piece of pipe, we get
12 an indication of what that -- condition of that pipe is,
13 whether it's cathodically protected at the time or whether
14 it's an existing bare steel line. And then does it have any
15 useful life left. What's the wall thickness that remains
16 there.

17 We look into our cathodic protection
18 systems, what areas -- there might be an isolated area that
19 is its own entity as far as cathodic protection that's --
20 we've got some cast iron here and maybe a piece of bare
21 steel pipe there. How do you fit all that together and meld
22 it together so you have something that is good when you're
23 finished. We look -- have we done some replacements earlier
24 with plastic pipe. Is that in the area and such.

25 Then, as I said earlier, this is the stoner

Missouri Public Service Commission

1 models. Those are used to look at where we might have new
2 loads coming on, if we have some new development, say, in
3 the inner parts of Kansas City with Bruce R. Watkins coming
4 through or some of those developments, where when we -- we
5 upsize the pipe, where do we have pressures available that
6 we can bring into the system where we can maybe reduce the
7 pipe size, do it a little bit more efficiently through an
8 insertion process, or how can we work all the information
9 that we have to go in and systematically work through
10 several blocks of an area that we've identified as a concern
11 and work through it and be done with it.

12 We work with the city fathers, the public
13 works people. In Kansas City, Missouri, they resurface a
14 little over 100 miles of roadway a year. So we want to be
15 out there ahead of them taking care of what we need to do
16 before they get there because they don't like to see us cut
17 into streets after they've gone through and made that
18 investment.

19 So we do all those pieces and just kind of
20 pull it together as a whole package, an overall design plan
21 of what's going on. And putting it together so that we have
22 a system that can serve the customer, go through and work
23 through it. I've got one other example I'd like to show you
24 that Jack had alluded to earlier as far as our mapping.

25 Back in St. Joe we've got a system --

Missouri Public Service Commission

1 developed a systematic plan to work through the town and
2 basically sector by sector or area by area. And here --
3 this is a map here. It's color coded. And there are
4 different symbols on here for the type of pipe that's there,
5 but -- like there might be a red dash or a green dash.
6 These all represent the different type of the components
7 that are in the system already.

8 We might have some four-inch protected
9 coated steel pipe. We might have some three-inch protected
10 bare steel. We might have some two-inch plastic or some
11 four-inch plastic. We have to look at all the pieces and
12 take it as one large group and put it together and figure
13 out what's going to be the best for the system.

14 In St. Joe we've had opportunities where we
15 might have had some parallel systems to eliminate one system
16 and transfer it to the other. We've had places, though,
17 where we might have to maintain the same pressure in the
18 system. So you need to look at the whole package to really
19 put it together and come up with an overall plan. And then
20 that's what we use to work through and come up with
21 something to the end.

22 That's basically the process that I take as
23 far as designing the system. Then it's gone out to the
24 field, and they go ahead and get it built.

25 QUESTIONS BY EXAMINER DERQUE:

Missouri Public Service Commission

1 Q. Mr. Bennett, you say you are working through
2 St. Joe, are you meaning working through it on the maps,
3 working through it with a survey, or working the replacement
4 and protection program through it?

5 A. Working the replacement and protection
6 program actually through it. There is a -- five more years
7 of the program left up there. And then we will be finished
8 with that system.

9 Q. And, currently, for year '94, you're working
10 through that by sector; A, B, C, D, 1, 2, 3, 4?

11 A. Yes.

12 Q. Okay. That's the way you're doing it?

13 A. Yes.

14 Q. The whole system? .

15 A. Right.

16 EXAMINER DERQUE: Thank you.

17 THE WITNESS: This is more an example of all
18 the pieces that have to be brought together. So you can
19 come up with a system, the design of how this will fit, and
20 then say the next square miles to the south or to the east
21 or west.

22 EXAMINER DERQUE: Okay.

23 MR. DUFFY: Mr. Bennett, is this an example
24 of why you believe that the prioritization approach that
25 we're asking for is superior to the categorization approach

Missouri Public Service Commission

1 that exists now?

2 THE WITNESS: Yes, because there are more
3 pieces there you have to put together to make sure you look
4 at the entire system.

5 COMMISSIONER McCLURE: I have an overall
6 question. This may be the place where it should be -- you
7 talked about prioritization. And you say in the plan that
8 if the company would follow a systematic replacement program
9 prioritized to identify, et cetera, and it goes on. And
10 then the factors are listed with reference to some of your
11 discussion here. But then the company says those are not
12 listed in priority. And I'm having trouble understanding
13 where the priority comes, what the priorities are, in what
14 order, and how that meshes with your planning process.

15 THE WITNESS: Okay. My planning process and
16 the actual design of the facilities is driven based on what
17 Joe Diskin and his -- the field operation people have gone
18 out and looked at the data that they've put together. I
19 don't know if he needs to address something else relative to
20 that.

21 MR. DUFFY: I think what you're referring to
22 are the seven or eight bullet points under each one.

23 COMMISSIONER McCLURE: Yes.

24 MR. DUFFY: And I think the reason we put
25 the language in there that they were not necessarily listed

Missouri Public Service Commission

1 in order of priority was that -- and I hope these
2 engineering people will help me. -- is that it may be very
3 difficult to categorize one of these bullets as being that
4 much more important than the other of the bullets. From
5 what I understand, they want to look at all of these things
6 and say, "All right. If the majority of these things are
7 here, then this is something that needs to be replaced."

8 COMMISSIONER MCCLURE: I guess my question
9 would be, then, who determines which is the more important
10 priority? How is that done?

11 MR. DISKIN: It's really not a one-person
12 deal. We look at breaks. We think that -- we don't feel
13 like we have a main out there that we've got an immediate
14 problem with today or we'd be there working on it. So we're
15 looking at what we're going to do in the future. And we're
16 trying to make the whole system safer.

17 So we look in an area. And I simply
18 identify it by many things; public works would be in there,
19 the amount of breaks we've got in there, the amount of cast
20 irons, breaks per mile, amount of bare steel, where it's
21 located, what's around it, what class location are we in.
22 And then we look at all those things together, and we
23 prioritize and try to get rid of the worst -- or the most
24 high priority is 39 miles that we have.

25 Now, sometimes we may have to go out of

Missouri Public Service Commission

1 the -- we try to do that by area. So you can get in and
2 clean it up. Now, we may have to go out and do 1,000 foot
3 here, 1,500 foot there, somewhere else in a system through
4 the year. Like in St. Joe, we're doing about eight to nine
5 miles a year up in St. Joe. We've got it -- over a six-year
6 program, I think they had 48 miles, if my memory serves me
7 correct, that we had to get rid of.

8 So we looked at it, divided it up into six
9 equal parts. We're just talking St. Joe. Tried to look at
10 the most breaks we had in the area, the most leakage we had
11 in the area, and the most No. 3, sole consistency. We look
12 at all those things together. And then you get down to the
13 point that -- you get to the point you get four or five of
14 them. Then you just say, "Okay. We'll do this first, this
15 second, and this third." I don't know if there's a
16 really -- a mathematical equation that puts it way out in
17 front. A lot of it has got to do with past experience with
18 the people that work there also.

19 COMMISSIONER McCLURE: Thank you.

20 MR. DUFFY: Did you have anything else,
21 Mr. Bennett?

22 CHAIRMAN MUELLER: Are you doing any
23 insertion, much insertion, in the cast iron?

24 MR. DISKIN: We're really not doing a lot of
25 insertion. We're doing some insertion. We're doing a lot

Missouri Public Service Commission

1 of insertion on service line replacement. Probably we've
2 done 21,100-and-some services this year. Yeah, about 20,100
3 and something. We probably inserted 95 percent of those.
4 Our mains, we probably inserted five percent of those.

5 On our mains, what we're doing on our mains,
6 there is a new technology out that we're involved in -- or
7 not involved in, but we work with a lot. And that's
8 directional boring. We found out that we're better off to
9 bring the mains out from underneath the street. If the cast
10 irons are underneath the street, directional bore, the
11 entire street, we have a smaller hole to tear up, we don't
12 tear the street up. And we do a lot of directional boring
13 where maybe, at one time, we go to insert it. We found out
14 that insertion is not the cheapest way and maybe not the
15 best way. It's just another way.

16 CHAIRMAN MUELLER: Have you experienced any
17 problems with graphitization, or is it mainly the breaks
18 with the cast iron?

19 MR. DISKIN: We have some graphitization.
20 But very little. Mostly the experience that we've had is
21 breaks. Breaks and third-party damages or someone working
22 around it. Graphitization is very minimal.

23 Any other questions?

24 MR. DUFFY: Did you have anything else,
25 Mr. Bennett?

Missouri Public Service Commission

1 MR. BENNETT: No.

2 COMMISSIONER KINCHELOE: I have a question.

3 I can certainly understand what you're
4 describing seems to be a more efficient process than perhaps
5 the plan would permit. It was my impression that from the
6 beginning the plan sacrificed some efficiency in order to
7 address what were believed to be the highest priority
8 threats to public safety most quickly. Now, are we no
9 longer prioritizing in that way, or was the plan mistaken
10 from the beginning, or has something changed?

11 MR. BENNETT: I would say that we've
12 developed additional knowledge and tools with the system
13 that we didn't have when the plan was put together back in
14 '91 and '92, based on some of the rules that came out in
15 December of '89 that have helped us focus more on areas that
16 might have a higher risk or be more of a concern than the
17 ones that might have come out at that point in time.

18 COMMISSIONER KINCHELOE: But with what
19 you've learned, couldn't you still pinpoint those particular
20 lines rather than geographic areas? I mean, I understand
21 that approach sacrifices efficiency. It also increases
22 inconvenience to the public while work is being done. I'm
23 trying to get, is there something different, in terms of
24 tradeoffs, that was originally anticipated or is there now a
25 greater compatibility between efficiency and safety than

Missouri Public Service Commission

1 there was when the most dangerous pipes were still in the
2 ground?

3 MR. DISKIN: I don't think what they
4 prioritized to begin with was the most dangerous pipes.
5 That is my --

6 EXAMINER DERQUE: Are you disagreeing with
7 the original plan? You're disagreeing with the Staff's --
8 or with the plan?

9 MR. DISKIN: Well, yes. I don't know if I'm
10 disagreeing with the Staff's original plan or not. But I
11 don't think that -- I don't like -- I don't think that the
12 most -- all the dangerous pipes are -- that that much
13 footage is laid in this area and that much footage is laid
14 in that area and that much footage is laid in that area. I
15 think it changes. I think -- we've done -- I think a flood
16 changes it.

17 I think that, if you go out and do a lot of
18 street repair and sewer work in an area, it changes what's
19 the most dangerous area. If you go out and excavate around
20 a cast iron main, a lot of excavation around it, it may have
21 been a year ago that main was not dangerous at all. But now
22 that you excavate around it, that should be one of your
23 number one priorities.

24 The flood, undermining the main in a sandy
25 area, in a sandy area a cast iron main generally doesn't

Missouri Public Service Commission

1 break. In the area down around the stockyard, we had very
2 few breaks in that area. But as the sand undermined it, we
3 went down a hole one day and had a four-inch main stick us
4 in the face in a 15-foot deep hole.

5 So I think that this plan changes
6 constantly. And I think that's it's going to continue to
7 change by -- so I think you've got to look at what you're
8 doing and what the weather has done to you, what the public
9 works has done to you, what's your experiences had, what
10 you've had from breaks. I don't know that you can say, but
11 I do say this, that if you had the same two areas and one of
12 them was exactly the same and that area is in P&P, that that
13 area should sure be gone before the one somewhere else, if
14 you had three breaks or such as this.

15 But there's a lot more things to look at
16 than just P&P. The experience that we've had where the
17 occurrences has happened where we've had people hurt, over
18 my -- my experience has been primarily because of a main
19 breaking or a service breaking and getting into sewers. And
20 we've had that more in residential areas than we have in the
21 business areas.

22 And we've done a lot of replacement. If you
23 take from the downtown loop of Kansas City, Missouri --
24 Kansas City, Missouri, is circled by I-35 and I-70 -- we've
25 replaced probably 75 percent of that cast iron main and --

Missouri Public Service Commission

1 and main protection in that area. So we've done a lot of
2 work. Excuse me. It isn't like we haven't done a lot of
3 work in that area. We've done a lot of work in that area.
4 But there's just other areas we need to do a lot of work in,
5 in the residential areas or other places.

6 MR. COX: There's a small, specific example,
7 if I could give you, which might address that point. Say,
8 for instance, we're precisely adhering to the categories
9 and we come down to year end and we need three miles of
10 four-inch cast iron. Just looking at the categories, we
11 could go off to any part of the system, pick up four inches
12 of cast iron out in the middle of nowhere to meet that
13 particular category, and we would nominally meet all of the
14 items under the plan.

15 That doesn't -- to me that doesn't seem to
16 be the right thing to do. If we've got pieces of cast iron
17 in other parts of the city heavily populated where we know
18 we've got breaks and it might be six inches or it might be
19 at a slightly different category, I think it's smarter of us
20 and smarter for the Staff to back us in that area to take
21 that piece of pipe rather than going out in a prairie
22 somewhere and picking up two miles of four-inch pipe just
23 because it meets the category.

24 In a sense I guess I disagree with the
25 categories originally set up, not because of -- not because

Missouri Public Service Commission

1 I think anybody made a bad judgment. I think it was the
2 best judgment that could be made at the time. I just
3 believe there are circumstances that happen probably every
4 year, just like the flood, where you need to go in there and
5 say, "Look, do we want to get that extra mile to meet this
6 category? We can run out at the end of 75th Street and pick
7 it up for no cost. Or do we want to do the right thing?"

8 And I guess that's -- what Paul is saying
9 is, all this ties together because, once we get in there, we
10 want to do it as efficiently as possible. But the
11 efficiency of construction is not the overriding function
12 here.

13 COMMISSIONER KINCHELOE: I appreciate what
14 you're saying. A couple other things I hope you recognized:
15 Everybody has a -- cost is a consideration for everyone. It
16 has to be in terms of overall public interest. At the same
17 time these categories only speak in terms of minimums. It
18 doesn't, you know, it's presumed that there is a
19 requirement, in terms of public safety, that will be
20 achieved even if it requires something over and above the
21 minimums that are required for any particular category, as
22 presently defined.

23 And let me say finally, we have an interest
24 in this, in whether the plan needs to be rethought, because
25 there's certainly -- there's more at issue in this general

Missouri Public Service Commission

1 matter than the rule and its application to this company. I
2 mean, we've got an issue that we have to deal with and we
3 have to consider on a statewide basis. And so we're trying
4 to learn, consider the implications for what we're hearing
5 here for. Other circumstances as well is the reason for
6 some of these questions.

7 MR. COX: Of course.

8 MR. DUFFY: Maybe the Staff can correct me.
9 But I'm not sure that anybody else has the type of
10 categories that MGE has. So if you're concerned about
11 setting precedent, I don't think that's what we're doing
12 here.

13 EXAMINER DERQUE: Go ahead. Excuse me.

14 COMMISSIONER KINCHELOE: I was just going to
15 comment that this is a precedent insofar as it stands for
16 what the Commission's approach has been in the area in which
17 the threats to public safety have been considered greatest.
18 And, you know, in the event that that should emerge in some
19 other area, this is remarkably what the Commission would
20 ordinarily look to to apply elsewhere in other
21 circumstances. And so if this is was not originally the
22 best approach, then that's something we need to learn.
23 That's all I'm saying.

24 MR. DUFFY: And I guess my point would be
25 that -- my understanding was, the Commission approved

Missouri Public Service Commission

1 specific plans for each company. So it doesn't necessarily
2 mean that, if you approve X for Company Y, that you're going
3 to have to go do the same thing someplace else.

4 COMMISSIONER McCLURE: I kind of view this,
5 to follow up on Commissioner Kincheloe's statement, as a
6 relaxation of the original plan. Maybe that's an incorrect
7 characterization. But I think that's some of the concern
8 Commissioner Kincheloe was pointing at.

9 MR. DUFFY: Certainly we aren't viewing it
10 as a relaxation since we're going to meet the same overall
11 number of miles of replacement that the Commission indicated
12 they wanted done before. It's simply a refocusing of, do we
13 really -- is that really going to serve the public interest?
14 Is that really going to get the most dangerous lines
15 replaced? And what the company is saying is, let's focus on
16 getting the most dangerous lines replaced and still achieve
17 the same number of miles every year that you said you wanted
18 done.

19 EXAMINER DERQUE: Commissioner Crumpton.

20 COMMISSIONER CRUMPTON: I'd like to begin my
21 questioning with this question. Does this track a system
22 similar to the one that Laclede Gas has?

23 MR. BENNETT: I'm not familiar with
24 Laclede's system.

25 COMMISSIONER CRUMPTON: Is it an improvement

Missouri Public Service Commission

1 over the one that Laclede Gas has? I went and visited the
2 one at Laclede Gas Company. And it tracked the same kinds
3 of issues on a data base similar to this.

4 MR. LEONBERGER: This is probably more
5 sophisticated.

6 COMMISSIONER CRUMPTON: More sophisticated,
7 okay.

8 Like one of the other commissioners, I'm a
9 little concerned about how the decisions are made. My
10 thought is, if you have a very small group of individuals
11 making the decisions about which mains to replace, that
12 there may be other issues that are being overlooked. And so
13 I do have a concern about that.

14 As far as the collection of the data is
15 concerned, I think this is a great improvement over the
16 prior process because this does tend to direct the attention
17 of the replacement program to the weaknesses in the overall
18 network.

19 Are the public works agencies cooperating
20 with your company in providing you with information as to
21 where they're getting ready to do work that would undermine
22 your network?

23 MR. BENNETT: Yes.

24 COMMISSIONER CRUMPTON: Like, you know, dig
25 a whole or a ditch or something to replace a water main as

Missouri Public Service Commission

1 an example. Are they letting you know in advance that
2 they're getting ready to do this?

3 MR. BENNETT: Yes, that and their
4 resurfacing programs. We get together six months before
5 their construction season and go through where they
6 prioritize their lists on where they're going to go. We get
7 the Highway Department's master plan as far as their
8 projects. And we have good working relationships with most
9 all of them.

10 COMMISSIONER CRUMPTON: See, because in some
11 jurisdictions that's not -- they don't always follow that
12 process. In other words, you know, in St. Louis, I think,
13 this past summer or summer before last, there was an
14 explosion simply because there was a gas main near an area
15 where a great deal of work had occurred, as well as some
16 washout from the flooding of the sewer system had occurred.
17 And because the gas company was not made constantly aware of
18 what was going on, the gas company was not aware that the
19 underpinnings of their network had weakened; and, therefore,
20 they had this break that they could have avoided had they
21 known that there was activity out there.

22 MR. DISKIN: I think maybe when the -- I'm
23 hearing this talk it sounds like that we're saying that
24 we're doing it or the City is doing it where there was work.
25 But what we do is, we go to the City and we prioritize and

Missouri Public Service Commission

1 we want to do this area. And they've got streets to do
2 also. And if they know that we're going to -- we say,
3 "Okay. You're going to do that street next year." We say,
4 "We want to go in and replace all the mains or services on
5 that street." And what they'll say is, "Okay. You do that,
6 and we'll put that off for two years or we'll put another
7 one ahead of it."

8 It isn't us going necessarily, in all cases,
9 where the cities and public, especially the City, go. A lot
10 of times they'll work with us, and we'll say, "This is the
11 streets you're going to do." And if we know we're going to
12 do that in the next two years, we try to give them a time
13 frame of when we're going to be in that area. And they'll
14 postpone and just -- and we'll say, "We've done over here."
15 And they've got that maybe prioritized down. They'll go
16 over there and do that one and come back and do the other
17 one.

18 It's just a mutual working relationship that
19 we have. It isn't that they come out and say they're going
20 to do Street A, B, and C. Then we go out there and do
21 everything A, B, and C. They tell us what we're going to
22 do. And we look at our plan. Then we try to work together.
23 And I'll be honest with you. Sometimes we do go in, if
24 they've got something that they've got to get done, we do go
25 in and work with them to get ours out of there.

Missouri Public Service Commission

1 COMMISSIONER CRUMPTON: And I recognize
2 that, in the controlled maintenance programs, that you all
3 are cooperating. I'm concerned about the emergency
4 situations where a water main breaks. Are you -- I mean,
5 will the water company give your company a call and say,
6 "Look, we're working on 75th Street and we had a washout at
7 Prospect Avenue or what have you. We're going to be out
8 there tomorrow taking a look at this. You need to come out
9 and take a look with us." Are you getting that kind of --

10 MR. DISKIN: Yes, they are. They're doing a
11 lot better than they used to.

12 COMMISSIONER CRUMPTON: Now, that
13 information, is that now input to your data base, such as
14 construction work near main number? And I'm sure you have
15 these mains numbered as well as --

16 MR. DISKIN: Well, we have project numbers.

17 COMMISSIONER CRUMPTON: Project numbers.

18 MR. DISKIN: Like the Bruce Watkins freeway,
19 we're working real hard to make sure that we get out of the
20 way of the Bruce Watkins freeway area. Now, what will
21 happen is, I'm going to send, every time that they go down
22 on the water service, that they call us because I don't
23 know, with the water service, when they go down.

24 But I know we get a lot of the locates from
25 the City. We go out and make the locate because they don't

Missouri Public Service Commission

1 want to get involved with us any more than we want to get
2 involved with them with a problem. So they work real good
3 with us.

4 MR. DUFFY: Before we get too far, could we
5 respond to your question about how many people are involved
6 in making these decisions?

7 MR. DISKIN: Well, we go -- this decision
8 is -- it really goes all the way down to the working foreman
9 and the crew. They come back and give to their supervisors
10 the area that they've got questions about. And their
11 supervisors just feed the information up, if it's something
12 that they've got a real concern about.

13 And so you go from the field worker to the
14 supervisor to the department head in that location to -- we
15 got -- right now we have three basically with cast iron
16 steel and bare steel, four reporting locations where we've
17 got this. And we all meet in all four groups, and we talk
18 about what we're going to do and plan out ahead of time what
19 we're going to do.

20 Then sometimes we have to change in the
21 middle of the year a little bit because something will come
22 up in one guy's area. We work underneath the lines of
23 construction, so all the construction is underneath my area
24 of responsibility. So sometimes we have to move what we're
25 going to do from place to place.

Missouri Public Service Commission

1 So we get a lot of people's involvement in
2 it, put all the information together. Then we work with
3 engineering on what area we'll do and what we need to do in
4 that area where we're going to do it.

5 COMMISSIONER CRUMPTON: I'd like to come out
6 and visit your company and visit the process -- I mean, the
7 workroom where the foreman dispatches their workers and
8 where the calls come into the dispatch station to compare
9 that to what I've seen at other companies.

10 MR. DISKIN: Okay.

11 COMMISSIONER CRUMPTON: The exhibit that you
12 showed a few minutes ago where you had the actual drawings
13 of the mains, would you go back to that.

14 MR. BENNETT: The large or --

15 COMMISSIONER CRUMPTON: No. That one there.
16 The example network.

17 When your dispatcher receives a call, does
18 your dispatcher have the ability to bring up on the screen
19 or some display monitor or what have you that would show a
20 section of that particular network like that (pointing).

21 MR. DISKIN: Now. We do now. We didn't
22 have three years ago.

23 COMMISSIONER CRUMPTON: All right. Now, the
24 question is, when it pops up there, does it also have the
25 ability to place X's or O's or something along the pipe to

Missouri Public Service Commission

1 show how many breaks you've had in that pipe over the
2 last --

3 MR. DISKIN: No. That does not have. It
4 may get there. We just started on our mapping system. And
5 that's in Jack's area. But until, what, Jack, nine months
6 ago, six months ago --

7 MR. COX: Right.

8 MR. DISKIN: -- we didn't have that
9 capability. We do have the capability. It doesn't look
10 exactly like that. We have a line drawing. And if you show
11 39th and Broadway or any street, we can type in that street,
12 and it will come up and show what we have in that area.

13 COMMISSIONER CRUMPTON: But will it show
14 also somewhere on that screen the number of breaks that
15 you've had in the section you're looking at?

16 MR. DISKIN: No. But I do have a map in the
17 plan that you can pull that map out, and it will show you
18 the amount of breaks we've had in that area.

19 COMMISSIONER CRUMPTON: Are you working
20 toward the technology where you will be actually able to see
21 the number of reported breaks along that piece of pipe?

22 MR. COX: Yeah. I believe I can address
23 that. We're working on a computerized mapping system that's
24 based in AUTOCAD, a very common base system. And I won't
25 say the unique thing about it. But an interesting point

Missouri Public Service Commission

1 about the system we're building is that every identifier --
2 let me back up a little bit.

3 The mapping system itself just isn't
4 graphical. It's interactive with a data base. So I can do
5 inquiries. We're not there yet. We're working on it. But,
6 for example, for part of what we did here --

7 COMMISSIONER CRUMPTON: Let's just say that
8 one piece.

9 MR. COX: Well, this is really more of a
10 cartoon drawing than an actual drawing. But something like
11 this map here (indicating), in the areas where we've got the
12 LAN base down, where we've overlaid the actual drawings, we
13 can go in there and say, "Give me a specialized map of all
14 of the cast iron four inches and under that is older than
15 ten years." I mean, there's, like, 20-odd data fields tied
16 to that.

17 Now, we're making efforts to tie it to all
18 the data bases we have, including the premises where the
19 services are. The cathodic protection points will be tied
20 into it. I mean, our idea is to have a facilities mapping
21 system where we can pull out anything that's pertinent in
22 making the decisions we make.

23 COMMISSIONER CRUMPTON: Including the number
24 of breaks that have been reported within the last five
25 years?

Missouri Public Service Commission

1 MR. COX: Yep. Like Joe said, that is not
2 in there now. But anything that we can tie to a segment of
3 pipe and report into the system. We've got blank spots in
4 our data base. We didn't fill them all up because we knew
5 other things would happen. So it's a matter of tagging it
6 on to that piece of pipe.

7 And you can't see it from there. But I can
8 look right here, and there's a tag line of stuff coming down
9 from this piece of pipe. It says, "This is Segment 41.
10 It's 1/4 inch of protected coated steel." Protected coated
11 steel? Okay. "83 feet long." And then it's got a project
12 number tied to it. There are many more pieces of
13 information tied back into the data base behind that. So
14 what you're saying is an important thing that we need to get
15 to on that, and we are addressing that.

16 EXAMINER DERQUE: Chairman Mueller.

17 CHAIRMAN MUELLER: Commissioner Crumpton
18 covered my question.

19 (Witness excused.)

20
21 MR. DUFFY: I call Mr. Dean.

22 EXAMINER DERQUE: Could we take a ten-minute
23 break?

24 MR. DUFFY: Sure.

25 (A recess was taken.)

Missouri Public Service Commission

1 EXAMINER DERQUE: We're back on the record.
2 Mr. Duffy.

3 MR. DUFFY: Thank you. In the interest of
4 maybe shortening this up a little bit, although we still
5 want to try to answer any questions you come up with, we're
6 going to put Mr. Dubay, our last witness, on at this point.

7 (Witness affirmed.)
8

9 EXAMINER DERQUE: Mr. Duffy, for the benefit
10 of the Commission, who are you skipping, so they'll know
11 these gentlemen here?

12 MR. DUFFY: We're skipping Mr. Dean, whose
13 assigned task was to try to summarize the witnesses that had
14 gone before him from an engineering-type perspective. And
15 we can certainly put Mr. Dean on if anybody has any
16 questions.

17 EXAMINER DERQUE: Okay. Go ahead.

18 EUGENE DUBAY testified as follows:

19 DIRECT EXAMINATION BY MR. DUFFY:

20 Q. Would you state your name for the record,
21 please?

22 A. Eugene Dubay.

23 Q. And your title?

24 A. Chief Operating Officer and Executive
25 Vice-President of Missouri Gas Energy.

Missouri Public Service Commission

1 Q. Would you give a brief resume' of your
2 experience in the gas industry?

3 A. I joined Southern Union in approximately '81
4 as an Audit Manager. I was promoted to Chief Financial
5 Officer in about '86. I left in '88, returned in '89, was
6 Vice-President of mergers, acquisitions, planning. I had
7 rates, regulatory affairs, some other sorts of things as
8 that, and then with this deal became the Chief Operating
9 Officer in Missouri of Southern Union.

10 Q. Would you give your statement, please.

11 A. Yes. I don't have a technical background
12 other than taking a few engineering courses in an
13 undergraduate way. But, in summary, I think that the way I
14 had viewed the safety program that Joe and Jack have
15 discussed -- And I'd also like to point out that Missouri
16 Gas Energy didn't initiate any of the changes that we've
17 discussed today. Those changes were initiated in '93.

18 In Missouri Gas Energy, it's been my
19 position to rely on the field people to make the right
20 decisions in regard to safety. And I've continued to rely
21 on the field people with regard to those decisions.

22 I view what occurred as walking into a house
23 where the roof was leaking in a major way. And initially in
24 the program, we knew where the roof was leaking, and those
25 shingles got replaced and those sections of the roof --

Missouri Public Service Commission

1 those leaks got fixed.

2 Now we're in the position where we've got a
3 lot of other shingles across the roof that ultimately need
4 to get replaced. But I think the field's concern is, if you
5 go up in one corner of the roof and pull out a shingle of a
6 certain type and then go to a different place and pull out a
7 shingle, what you've likely done in that one place where you
8 took out the shingle is you've likely shaken loose some of
9 other shingles that you're going to have to replace anyway.
10 So if you just pull that one out and walk away, you may have
11 created more harm than you've done -- than you've done good.

12 We don't know of any sections in the roof
13 now that need immediate emergency repair or we would be
14 there. We do that whenever that comes up. But as we go to
15 one section, we try to do the whole section of the roof so
16 we get some integrity there. We try to identify those
17 sections where the greatest public good is done by getting
18 that section.

19 And the field people, Commissioner, you
20 asked who makes the decisions. And those decisions have
21 continued to be made by field operations and engineering. I
22 don't have any sense that it's Joe Diskin's decision or Jack
23 Cox's, but rather Joe, Jack, Bill Dean, Paul, are all
24 together talking to their field people about what they're
25 seeing and about what their priorities should be.

Missouri Public Service Commission

1 We, from my background as a bean counter,
2 have, not been impacting those decisions on an economic
3 basis. We're not saying to Joe, "Go to east Kansas City
4 because we know you can do the work more economically
5 there." Joe is telling us where he needs to do the work,
6 and that's where the work is getting done.

7 Our priority has continued to be the public
8 safety issue. It has not been an economic issue. I think
9 we -- My sense is, as the chief operating officer, that we
10 have hit the major -- we've hit the areas of immediate
11 concern and we continue to do that.

12 I have a lot of confidence in the people
13 that you've spoken to today. They were here with the
14 company before. I think they developed the program in
15 conjunction with your Staff. And my sense is also that, if
16 your Staff -- they get a lot of data on what we do -- if
17 they are keyed to any area of concern, that they have the
18 right sort of rapport with our field operations, and our
19 field operations react to your Staff's suggestions. And I
20 would thank them for having achieved that.

21 Really, that's all I have. I look forward
22 to continuing to work with you all.

23 EXAMINER DERQUE: Commissioner Kincheloe.

24 QUESTIONS BY COMMISSIONER KINCHELOE:

25 Q. Is it your belief and the company's position

Missouri Public Service Commission

1 that the system will be safer, faster, if we make the
2 requested change and approve this than if we do not?

3 A. Yes, sir.

4 COMMISSIONER KINCHELOE: Thank you.

5 THE WITNESS: Thank you.

6 EXAMINER DERQUE: One moment.

7 Commissioner Crumpton.

8 COMMISSIONER CRUMPTON: No.

9 EXAMINER DERQUE: Thank you, sir.

10 THE WITNESS: Thank you.

11 MR. DUFFY: That's all of the prepared
12 presentation that we had. Again, if any questions come up,
13 we'd be glad to try to answer them.

14 EXAMINER DERQUE: Thank you, Mr. Duffy.

15 Mr. Shansey.

16 MR. SHANSEY: The Staff would like to call
17 Bob Leonberger to the stand, please.

18 (Witness affirmed.)

19
20 EXAMINER DERQUE: Thank you, sir.

21 ROBERT LEONBERGER testified as follows:

22 DIRECT EXAMINATION MR. SHANSEY:

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

25 A. Robert Leonberger.

Missouri Public Service Commission

1 Q. Mr. Leonberger, by whom are you employed and
2 in what capacity?

3 A. I'm employed with the Public Service
4 Commission. I'm the Assistant Manager of the Gas Safety
5 section.

6 Q. And what are your duties as such?

7 A. My primary duties are administering the Gas
8 Safety program for the Commission.

9 Q. How long have you been with the Commission?

10 A. I've been with the Commission for 12 years,
11 the last four of which I've been the Assistant Manager of
12 the Gas Safety section.

13 Q. Mr. Leonberger, you've been here during the
14 remarks of the witnesses of Missouri Gas Energy Company,
15 have you not?

16 A. Yes.

17 Q. And do you have anything from the Staff's
18 perspective to add to those remarks?

19 A. Well, first of all, I tried to -- I put some
20 remarks down and I filed those with the Commission to let
21 them hopefully have the opportunity to look at them. There
22 are a couple of points to the questions that I've listened
23 to that I think I could possibly clarify before I summarize
24 what I have presented to you.

25 One of them is in the area of the

Missouri Public Service Commission

1 categories. There's been a lot of questions about the
2 categories that we have now and why we are getting away from
3 those categories. At the time the categories were developed
4 by Gas Service, Western Resources, what we tried to do was
5 look at what categories of pipe had the most problems. And
6 it doesn't necessarily mean that all the pipe in that
7 particular category is bad. It just means that that
8 particular category had overall a worst history.

9 So the company came to us with the
10 categorized idea. And I think at the time it was a good
11 concept. We're not saying all of a sudden it's a bad
12 concept now. I think what has happened now, the program has
13 replaced approximately 76 miles over the last three years.
14 We have gotten rid of the example that Mr. Dubay gave of the
15 leaky roof. We've concentrated in the categorized areas.
16 We've gotten rid of the leaky pipe, the pipe that caused the
17 -- was the immediate danger.

18 What we have now left is a system that
19 there's not a -- there's potential for hazard in the system,
20 but not immediate hazard. What we need to do now is, I
21 believe, is look at it more on, like they're saying, we need
22 to go out and look at it and prioritize, and not just in
23 these narrow restricted categories now that we've gotten a
24 lot cleaned up, but look at it more on a larger basis, a
25 system-wide basis.

Missouri Public Service Commission

1 The other question Commissioner Kincheloe
2 had was concerning economics. And he understood it was --
3 it may be more economical to go into an area and get it out
4 as opposed to a safety concern. What was touched on, I
5 think, a lot by the company, and I don't know if we really
6 ever tied it in a, quote, nice little package, is that cast
7 iron main breaks occur basically in geographical or
8 clustered areas.

9 Most of the breakage is from environmental
10 causes, as they discussed. They're from pipeline failures,
11 badly installed pipe, water flooding, water table height,
12 there's traffic in and out of pavement, all these things.
13 But what you see is, you have a clustering of -- when you
14 have a problem, you have a clustering of the breaks in the
15 pipe.

16 So actually going after -- Having a program
17 that goes after replacing of cast iron in those geographic
18 areas, both in cast iron -- I'll talk about cast iron first
19 -- is really the way that the breakage occurs when you see
20 it in the system. They'll see them clustered. Like there
21 will also be other areas, from third party damage or other
22 areas, where one piece of pipe will exhibit a problem for
23 whatever reason. Their system will go out and get that one
24 little piece as a priority also, but the main approach to go
25 into those areas where there's the big clusters and get them

Missouri Public Service Commission

1 out. Not only cast iron, but do it on a more global
2 approach. Look at the cast iron unprotected steel mains and
3 service lines and get them all out as a unit and do that at
4 one time.

5 And using the model that they have right
6 here, it seems apparent that, if you go in and just replace
7 that four-inch pipe right there, you're having to hook a new
8 four-inch main into that old six-inch. You've dug down
9 beside the six-inch cast iron main and you may have created
10 other additional problems there by disturbing the soil
11 around that main. Not replacing the six-inch at the same
12 time you go in and do the four-inch is not good -- it
13 doesn't make good practical sense from the standpoint of
14 disturbing the soil around a cast iron main. There is an
15 economic benefit, yes, but the overriding issue here is
16 still safety to go ahead and replace that six-inch while
17 you're doing the four-inch, from their model.

18 Commissioner McClure talked about relaxation
19 of the safety program. I don't -- There again, from what I
20 said before, I don't view it as a relaxation. I just think
21 it's -- As they pointed out, we have better tools, we have
22 better information, we have a better data base. At the time
23 we did this, as I pointed out in my comments, we, the Staff,
24 had never done anything like this before putting together a
25 program. The company hadn't either. We didn't really have

Missouri Public Service Commission

1 good data on what we had.

2 The Stone and Webster audit came about. We
3 have the soil studies, we have what the computer programs
4 are doing now. We have a better way of identifying where
5 things are. And we've gotten, like I said, the 76 miles
6 we've gotten out of the ground in the last three years.
7 We've gotten rid of the leaky pipe. We've gotten rid of the
8 immediate problems. What we need to do now is focus on
9 which of the problems -- which of the potential problems
10 that are out there are the worst, and not just say it's all
11 four-inch, because it's not.

12 But I can summarize my comments or, like I
13 said, I have my comments that I put before you this morning.
14 I can go down through and summarize them if you'd like, or
15 if you have any other questions about what I just said
16 before I go on.

17 QUESTIONS BY EXAMINER DERQUE:

18 Q. Mr. Leonberger, let me see. Okay. You've
19 heard the testimony from Mr. Cox, Mr. Disken, Mr. Dean, and
20 finally Mr. Dubay. You sat there and listened to their
21 testimony. Do you agree with what they're saying,
22 technically?

23 A. Yes. We have discussed this. We've been
24 discussing this since before Missouri Gas Energy took over
25 the company.

Missouri Public Service Commission

1 Q. Yeah. I understand.

2 A. What I'm saying is, we have discussed this
3 over a long period of time and, yes, I agree with the
4 concept. And we have been out in the field. We've seen
5 this and seen -- Yes, I agree with what they said, yes.

6 Q. Okay. And what they are saying in regard to
7 the repair and replacement program in terms of safety, okay,
8 is accurate in that it's your opinion, at this time, that
9 their proposal is the best way to proceed with this program?

10 A. Yes. I think it's a safety-based program.
11 I guess the way I would characterize it, the primary
12 emphasis is a safety prioritization. It still is. There
13 as, I guess, a byproduct, or as a -- as a byproduct of it or
14 as a coincidence of it, there is the economic advantages.
15 But cast iron breakage essentially occurs in clusters.

16 The unprotected steel main corrosion
17 basically occurs in areas where there's different soil
18 types, so that is it occurs in areas. Attacking those areas
19 where those worst problems are is really a logical approach
20 from a safety standpoint.

21 Q. Okay. And you've been dealing with Missouri
22 Gas Energy and before that Western Resources in regard to
23 this proposal the Commission has before it since '92, '91?

24 A. '93.

25 Q. '93?

Missouri Public Service Commission

1 A. Well, I mean, the idea of with the
2 restriction of just doing four-inch and not looking at the
3 whole system.

4 Q. Okay. Now, it's my recollection that the
5 Staff proposal, which was not adopted in this case, the
6 Staff categories which were not adopted in this case but
7 rather what the company had, the Staff categories were
8 somewhat more, as you say, sophisticated or complex than the
9 categories that were actually adopted; is that correct?

10 A. The categories were -- The categories were
11 basically developed by the company, and ours were a little
12 but different, yes.

13 Q. Yours were different than --

14 A. But as we tried to work through a solution
15 to this, I guess we kind of came together. As opposed to
16 them wanting to do categories at that time and the Staff
17 proposing something completely different, we tried to get a
18 program as they filed it and work with that program. So I
19 guess we both kind of came together.

20 Q. Okay. There was a chart that was adopted,
21 okay. On that chart, that first one, less than four-inch,
22 okay. And in the Staff's proposal in this case it was
23 two-inch, three-inch and four-inch; is that right? That's
24 the difference. The difference was a little more detailed?

25 A. Right.

Missouri Public Service Commission

1 Q. Right. Okay. So what you're saying is
2 that, at this particular time -- and this is the
3 Commission's concern -- at this particular time, we're going
4 to go entirely away. It's the Staff's opinion that the
5 Commission should go entirely away from those categories and
6 simply monitor by mileage and some other things; is that
7 right?

8 A. I don't know if we're going completely away
9 from it. As far as a category and a number of miles in that
10 category, yes. As far as those items in those categories,
11 steel being high priority that are looked at first for
12 replacement, the facilities that are listed in these
13 categories are still high priority when they look at which
14 ones they're going to replace. So we're not totally
15 abandoning the idea of replacing these.

16 Q. How can the Commission be sure that's true?

17 A. Well, we are, over a period of a year, we're
18 probably with the company six to eight weeks out of the
19 year. We monitor, during our normal safety audits, we
20 monitor the leaks, we monitor the replacement program, we
21 monitor if that replacement program is effective.
22 Obviously, I've been here since the -- Joe gave his litany
23 of how long he had been there. I was there when we were --
24 I was there when we were investigating the incidents when we
25 rewrote the rule and we went through all that agony.

Missouri Public Service Commission

1 Obviously, I have a big stake in this myself. And I believe
2 that the safety -- The safety is my overriding issue also.
3 So but what I'm saying is, we are there all the time
4 evaluating what they're doing.

5 Q. Should the Commission adopt the proposed
6 modification, and what does the Staff plan on doing,
7 generally, to ensure that we don't -- that the Commission
8 hasn't compromised any safety? What does the Staff propose
9 generally to do for year '95? I don't care what you did in
10 '94, but '95.

11 A. Okay. What we propose to do would be, as we
12 recommended in our Staff memorandum, would be to continue to
13 have the company monitor and report to us the leaks by those
14 categories, and also continue to report to us how much pipe
15 was in those categories. We would then have the ability to
16 look at the amount replaced and the amount of leakage in
17 those categories to make sure that the program, the modified
18 program, the pipe remaining in those categories, we can
19 monitor it to see if the leakage on those is out of line.
20 We can look at those and make sure that they are doing what
21 they say they are, which is getting the most hazardous pipe
22 out of the ground. So we will continue to monitor the pipe
23 in those categories for leakage and see what the performance
24 is.

25 QUESTIONS BY COMMISSIONER MCCLURE:

Missouri Public Service Commission

1 Q. Mr. Leonberger, let me ask you two questions
2 on the Staff's filing. The first one, on the recommendation
3 filed of November 22nd, it contained the statement that
4 said, and I'm quoting here, "The low amounts of replacement
5 were a concern to the Staff, but MGE adequately explained
6 this situation and provided a replacement evaluation
7 procedure."

8 We had a lot of question about what that
9 meant. It's kind of like you dangled the carrot and said
10 there's a problem here, but you didn't tell us what the
11 problem was or explain how they satisfied your concerns.

12 A. Okay. That primarily -- Well, that
13 statement is aimed at the unprotected steel main program.
14 Originally, the unprotected steel main program -- the
15 approved unprotected steel main program had a certain amount
16 of miles to replace and a certain amount of miles for
17 cathodic to protect. The rule allows, on unprotected steel
18 mains, to either cathodically protect it or replace it.

19 As the rule was filed there was -- As the
20 company went through it in this year, they did not replace
21 as much pipe as the approved plan had indicated. What we
22 have found with discussion with the company, as has been
23 said here, is that the operations people were not intimately
24 involved with the categories when they were developed by the
25 company.

Missouri Public Service Commission

1 What was found when they went out in the
2 field was the unprotected steel mains were in much better
3 shape than they had originally thought. They also had the
4 advantage in the unprotected steel service line program of
5 evaluating by digging up the main in a number of locations
6 and evaluating the quality or the condition of the main.

7 What they found was that not as much main
8 needed to be protected -- not as much needed to be replaced,
9 and they were able to protect it so it could still have a
10 long, useful life. What we were concerned about was that we
11 wanted to make sure that they weren't just protecting it for
12 economic reasons and possibly cathodic protecting pipe that
13 should be replaced.

14 What we found was they had a formal
15 evaluation procedure for looking at the pipe, and they
16 evaluated the main condition. And there was already a
17 certain level of cathodic protection already on the pipe.
18 It doesn't meet the -.85 criteria, but there was -- a lot of
19 the pipe was not totally unprotected. It was protected to a
20 certain level but not quite to the -.85 criteria.

21 So they used a formal evaluation procedure
22 and said, Okay, this pipe is good enough to product and not
23 replace. So the statement we have here was that we were
24 concerned they were not replacing as much of the unprotected
25 steel main and they were cathodically protecting more of it.

Missouri Public Service Commission

1 And we wanted to make sure that they weren't protecting pipe
2 that should be replaced.

3 And it was our belief from studying what
4 they were doing that the protection was a valid way to do it
5 as opposed to replacement because the pipe still had a long,
6 useful life.

7 Q. In the filing made yesterday, on Page 4,
8 you're talking about the current plan. You say, ". . . the
9 categories do not recognize the logistics of a distribution
10 system." The categories are ". . . not cost effective to
11 implement" and they may, in fact, create additional
12 problems for the remaining pipe to be replaced at a later
13 date.

14 My question is: Why shouldn't that have
15 been known by both the Staff and the company in 1992?

16 A. Well, the one reason it wasn't known by the
17 company in 1992 was, as the company and I both alluded to,
18 the field operations people were not intimately involved in
19 the development of the categorized replacement plan. The
20 company did not -- It's my belief they did not involve them
21 as much as they should have when the replacement plan was
22 submitted.

23 The Staff tried to approve their plan and
24 thought concentrating on the areas where they had the worst
25 problems was a good idea. And at the time I don't think it

Missouri Public Service Commission

1 was a bad idea to develop the categories. It's evident by
2 the fact that the leaks are going down. We've concentrated
3 on those areas and gotten the worst pipe out of the ground.
4 I don't think it's a matter so much as it's wrong now and it
5 was wrong then as much as it was the best we had at that
6 time. We have worked through it. We have more information
7 now. We have gotten to a different -- We don't have as many
8 immediate leaks and immediate hazards out there, so now
9 there may be better ways of doing it.

10 I don't think, like I said, just because
11 it's -- I'm not sure it was -- It wasn't a bad idea then.
12 We just have more tools, more information, and are at a
13 different point as far as the number of priorities,
14 immediate hazardous leaks, that it may not be effective
15 anymore.

16 Q. Can you give me a one-sentence synopsis of
17 what the message is that we're sending if we approve this
18 altered plan?

19 A. I guess the one-sentence synopsis would be
20 the one sentence that was in the order, the Commission's
21 order of October of '92 and the recent December '94 order.
22 "The overriding purpose of the gas and safety replacement
23 program is to ensure the most potentially hazardous lines
24 are inspected, repaired and replaced in as timely a fashion
25 as is feasible."

Missouri Public Service Commission

1 That's exactly what we're trying to do here.

2 Q. It sounds like it was a canned question and
3 answer.

4 A. No. It really -- but that's what we're
5 trying to do. Our job -- Our job is safety. I mean, that
6 is our exact concern. And that's -- I don't have to look at
7 economics. That's not my job. But safety is my job here.
8 And I think that this particular program better addresses
9 safety, and we're not having to have a category that may
10 have, once the -- like I said, I'll repeat myself.

11 The categories may -- Not all the four-inch
12 pipes in a category is bad. But to go ahead and still be
13 required to replace a quota of four-inch pipe when there may
14 be six-inch or other pipe that is worse, I don't think --
15 That's not -- That's not getting the most potentially
16 hazardous pipe out of the ground in a good manner.

17 COMMISSIONER MCCLURE: I'll just note for
18 the record that we didn't rehearse that. Thank you.

19 THE WITNESS: I liked the question, though.

20 EXAMINER DERQUE: Commissioner Kincheloe.

21 COMMISSIONER KINCHELOE: I don't know that I
22 have a question. Bob, I'd like to thank you for the filing
23 of the supplemental information by the Staff yesterday. I
24 think it's very helpful. And, in fact, I think part of the
25 reason that we're here is that the sort of brevity and

Missouri Public Service Commission

1 conclusory nature of the original recommendation left some
2 questions in our minds. And the very substantial and
3 important issues here require us to look at these issues
4 closely enough to let the Commission reach conclusions about
5 this.

6 It does seem to me that the issues that have
7 been presented here today as the basis for the request and
8 recommendation are well-founded considerations, but they
9 seem to me to have been sort of fully anticipatable
10 considerations at this stage of the program. So the
11 reassurance that we've received today regarding them has
12 been very helpful.

13 I guess I don't have a question. Thank you.
14 QUESTIONS BY COMMISSIONER CRUMPTON:

15 Q. Yes. Mr. Leonberger, I guess my question
16 is: Did you and Commissioner McClure rehearse this dialogue?

17 A. No.

18 Q. We have two statements to that effect.

19 How many visits have you made to Kansas City
20 to review this company's safety program this past year?

21 A. I think I have made two trips there. They
22 have made numerous trips down here. I would say all
23 together, specifically on the safety program specifically,
24 probably a half a dozen visits just on specifically that
25 subject. The Staff does, you know, normal annual audits of

Missouri Public Service Commission

1 their operating district, so we would have personnel at
2 Missouri Gas Energy's facilities probably six to eight weeks
3 out of the year.

4 Q. And when can you and I make a visit out to
5 review their safety program?

6 A. Whenever you'd like to.

7 EXAMINER DERQUE: Any further questions?

8 (No response.)

9 EXAMINER DERQUE: Thank you, Mr. Leonberger.

10 If there is nothing further from the
11 Commission -- Is there anything further from the Commission?

12 COMMISSIONER KINCHELOE: Has there been
13 anything from Public Counsel, a position statement?

14 EXAMINER DERQUE: Let's go off the record
15 for a minute.

16 (Discussion off the record.)

17 EXAMINER DERQUE: Let's go back on the
18 record.

19 Mr. Mills, do you have a position statement?

20 MR. MILLS: I have no formal statement. I
21 must say that I shared in some of the Commission's concern
22 when I saw these filings that it initially appeared that the
23 driving factor was economics rather than safety.

24 I think what I have heard today certainly
25 dispels that impression that the driving concern over the

Missouri Public Service Commission

1 modifications isn't necessarily economics. It appears that
2 it has both beneficial economic and safety consequences.
3 And I think the presentations by both the Staff and the
4 company have gone a long way towards easing my mind in that
5 respect.

6 EXAMINER DERQUE: Thank you, sir.

7 Commissioner Kincheloe, do you have anything
8 further?

9 If there is nothing further for the
10 Commission, we will go off the record. Thank you.

11 WHEREUPON, the hearing of this case was
12 concluded.

Missouri Public Service Commission

I N D E X

Page

MISSOURI GAS ENERGY'S EVIDENCE

JACK COX
Direct Examination by Mr. Duffy 8

JOE DISKIN
Direct Examination by Mr. Duffy 23
Questions by Commissioner Kincheloe 37

PAUL BENNETT
Direct Examination by Mr. Duffy 38
Questions by Examiner Derque 43

EUGENE DUBAY
Direct Examination by Mr. Duffy 65
Questions by Commissioner Kincheloe 68

STAFF'S EVIDENCE

ROBERT LEONBERGER
Direct Examination by Mr. Shansey 69
Questions by Examiner Derque 74
Questions by Commissioner McClure 78
Questions by Commissioner Crumpton 84