In The Matter Of:

Rhode Island Public Utilities Commission

Application to Change Rate Schedules - Docket 4406

October 08, 2013

Min-U-Script® with Word Index

Page 1

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
PUBLIC UTILITIES COMMISSION

PROCEEDINGS IN RE:

DOCKET NO. 4406

PROVIDENCE WATER SUPPLY BOARD
APPLICATION TO CHANGE RATE SCHEDULES,

PLACE: RIPUC
89 Jefferson Boulevard
Warwick, Rhode Island
DATE: October 8, 2013
TIME: 10:00 a.m.

BEFORE:

HERBERT DeSIMONE, PRESIDING COMMISSIONER
MARGARET E. CURRAN, CHAIRPERSON
PAUL J. ROBERTI, COMMISSIONER

APPEARANCES:

BOYCE SPINELLI
GREGG GIASSON, P.E.
PETER LePAGE
STEPHEN SOITO, P.E.
DAVID PETRARCA, ESQUIRE
JOHN BELL
LEO WOULD, ESQUIRE
SHARON COLBY CAMARA
CYNTHIA WILSON-FRIAS, ESQUIRE
MICHAEL McELROY
PAUL GADOURY
JOSEPHG KEOUGH, ESQUIRE
CHRIS WOODCOCK
JOSEPH SPREMULLI
RICKY CARUOLO
JEAN BONDAREVSKIS

Page 2

(Hearing commenced at 10:00 a.m.)
MR. DeSIMONE: All right. We're going to call this technical session to order. We have a presentation being made by Mr. McElroy on behalf of the Water Board; is that correct, Mike?
MR. McELROY: Yes, that's correct.
MR. DeSIMONE: On lead issues; is that correct?
MR. McELROY: Lead and what we've done address the lead issues and what we're doing now in proposing in this docket in terms of both a unidirectional flushing proposal as well as unlined cast iron main replacement.
MR. DeSIMONE: Okay. Are you ready to proceed?
MR. McELROY: I am.
MR. DeSIMONE: Please go ahead.
MR. McELROY: Thank you, Mr. Commissioner.
MS. WILSON-FRIAS: Commissioner, if I can interrupt, we've got two exhibits today for identification. One of them is Providence Water's presentation as Providence Water Exhibit 1 for ID and the notice of today's tech session is marked as Commission Exhibit 1 for identification.

Page 3

MR. McELROY: Thank you, Ms. Wilson.
(Off the record discussion.)
MR. McELROY: Good morning. As you know, I'm Mike McElroy. I'm legal counsel to the Providence Water Supply Board. We appreciate you giving Providence Water this opportunity to present this technical session. Providence Water will explain its history of lead compliance and its plan set forth in this docket for unidirectional flushing of mains, also known as UDF, and for the replacement of unlined cast iron mains and related matters.
We have with us today from Providence Water Boyce Spinelli, General Manager. Boyce, could you raise your hand. Joe Spremulli is in the back. He's Deputy General Manager for Operations. Ricky Caruolo, the Deputy Manager for Administration. Jeanne Bondarevskis, our Senior Director of Administration. Mary White (sic), our Senior Manager of Regulatory. Greg Giasson, P.E., sitting on the corner here will be making the presentation. Paul Gadoury sitting next to me is the former Director of Engineering for Providence Water. And he was the Director of

Page 4

Engineering when the lead issues started coming up, so we brought him here to answer any questions that might occur for that period of time. Peter LePage, the Senior Manager of Engineering is right there on the corner. Steve Soito, P.E. Senior Manager of Water Supply on that corner.
So those are the people from Providence Water that were involved in making this -- putting this presentation together. An awful lot of time went into putting it together and I want to thank everyone who invested their time and their efforts in doing this.
The presentation will be made primarily by Greg Giasson, but Greg and the rest of the Providence Water team are all available to answer any questions the commission may have. Greg?
MR. GIASSON: Thanks. Good morning everybody. Thank you for the opportunity. To just give you a quick overview of our presentation. We're going to go through a quick history of the lead and copper rules, Providence Water's compliance with the lead and copper rule, our subsequent lead service line replacement program, the two consent agreements that we

Page 5

entered in with the Rhode Island Department of Health, and as a result of the second one, our main rehabilitation program, our unidirectional flushing program, and then some quick takeaways from the presentation.
As you know, the lead and copper rule was enacted in 1991. Utilities were given about four or five years to figure out what they needed to do to come to compliance. Essentially, what the lead and copper rule required was 10 percent of your lead samples needed to be below the action level of 15 parts per billion. So in a utility Providence's size we have to take 100 samples, 10 samples or less have to be below 15 parts per billion. In addition, as part of that time frame before we were asked to be in compliance, we had to optimize our corrosion control.
This is a history of our action levels from 1997 when the lead and copper rule was -- we first started going -- we made samples for compliance. So as you can see, this green line is the lead action level of 15. This red line here is our compliance data from 1997 through 2005.
As you can see, we were under the action

Page 6

level for those eight years. Right around that, 2004, at that time Providence Water felt we were a little bit too close to the action level so we decided to commission a study to look at our corrosion control. The study, essentially, recommended that we lower our pH down to 9.7. This recommendation was based on EPA research findings.
So if you look at this graph, our pH -- pH is along this axis, the pH -- our pH before 2005 was right around 10.2. The research finding shows that if you reduce your pH down to 9.7 that's the optimal pH for lead solubility -- reducing lead solubility.
As you go down to 9.7, your solubility is at its lowest point, therefore, you shouldn't have -- theoretically, you shouldn't have issues with your lead service pipes.
We went to DOH and they approved our treatment change and we subsequently lowered our pH from 10.2 to 9.7 in November of 2005.
In 2006, we took our triannual sample and we exceeded the action level for the first time.
However, when we -- when we went into -- we entered into this -- when we started lowering the

Page 7

pH, the expectations were that it would take some time for that pH, that lower pH, to take effect.
You can see for 2006 and 2011 we exceeded 9 of 11 samples.
So this is just an extension of the graph you saw earlier. This little timeline, again, the lead action level in the green -- is the green line here. Our compliance sampling in the red right here is when we changed the pH to 9.7.
2006 is when we went out of compliance.
According to the lead and copper rule, once you exceed -- once you exceed the action limit two sampling periods in a row, there are two major consequences of exceeding the action level.
One, is you have to embark on a customer notification and education program, and two, you have to replace 7 percent of your services annually, so I just -- this is from data on -- at the time. And when we went out of compliance in '06, we had to take an inventory of our lead services. At the time, we had about 25,000 lead services -- 25,600 lead services, so 7 percent of that was about 1,800.
We took that inventory in '06 and we began the replacements in '07.

Page 8

MR. BOYCE: Gregg, excuse me, if I may just interrupt for a second. It's very, very critical to point out that whenever we say "lead service line" or "replace a line," remember, we're talking about a partial lead service line replacement. The regs only provided that Providence Water was responsible to replace the half of the lead service line that the utility owned, not the half that went from the curb into the home that was owned by the property owner. So it's very important to make that distinction that whenever we say "lead service line" we're talking about a partial lead service line replacement, although, we did offer an opportunity to the homeowner at that time to avail themselves of replacing their half and we would work with them and coordinate it with the contractor, et cetera. Go ahead, Gregg.
MR. GIASSON: That's a good segway. So this is just a typical installation of the customer or residential service line. And that's a good point, Boyce, that Providence Water typically owns right to the curb stop and this blue part here is the private side owned by the customer.

Page 9

MR. ROBERTI: Is there anything at the curb stop innerface like a shutoff valve?
MR. GIASSON: Yeah, the shutoff valve.
MR. ROBERTI: Do all of your customers have shutoff valves?
MR. GIASSON: Yeah. It's interesting to note that not every water utility has the same -- has that same -- not every water utility owns from the curb -- from the main to the curb stop. Some of the utilities own just from the main and the customer owns from the main to the house. It varies by utility.
MR. McELROY: Gregg, if a customer decided they wanted to replace their side, what kind of arrangements did we make for them?
MR. GIASSON: That's the next slide. I'll get to that.
MR. ROBERTI: But your meter is still -- who owns the meter then?
MS. WILSON-FRIAS: One person at a time.
MR. ROBERTI: Who owns the meter?
MR. GIASSON: The customer. Below a certain size, correct?
MR. GADOURY: We own the meter. The customer used to own the meter, but at one point

Page 10

we transitioned.
MR. GIASSON: You don't think you should own the whole thing, I mean, just much more seamless. I know we had this conversation back in --
MR. McELROY: Ricky, is there something you can add?
MR. CARUOLO: Providence owns the meter, so we take responsibility and ownership of the meter.
MR. ROBERTI: Kind of odd that your meter, which you own, is on infrastructure owned by the customer. It's not typical with electric or gas.
MR. CARUOLO: Meters are our cash register, so we want to make sure we can test that meter and make sure it's running accurately. As far as the private side service goes, you can run into issues if the service runs under a driveway, cobble stone driveways, some historical homes. There are some historical homes that we service and we're limited on, you know, what we can do and the liability that takes place there. There have been issues on the East Side specifically with some of the older homes that

Page 11

we're trying to put water meters in. And if we were to take responsibilities for that private side service, it could be -- it could be very costly to Providence Water or its payers.
MR. ROBERTI: Do you have the ability to put the meter right where the curb stop is?
MR. CARUOLO: Yeah, but then you run into other issues. There are confined space issues in some situations. Down south most of them are where the curb stop is and irrigation boxes. They don't freeze. We have issues where there's a lot of freezing. We're trying to get away from our confined space, to keep the meter from freezing, in an environment that will keep it safe.
MR. GADOURY: I'd just like to add that we did own meters for years and years and years from the inception of the Water Supply Board. The owner -- the homeowner owned the meters and at some point, because we wanted control over the meters because it was difficult to get access to the meters to test them and to maintain them or to get homeowners to do so, we felt it was in our best interest for us to take control of the meters, and, therefore, we had control over

Page 12

replacement, testing and maintenance. So I don't know when that took place, Ricky, but that was how many years back?
MR. CARUOLO: I would say in the mid-'90's. In the mid-'90's on meters two inches and below. Subject to check, Providence Water took over meters two inches and below, I would guess, in the mid-'90's subject to check. The large meters I think we took over ownership a few years after that. So we test our large meters on an annual basis, which our meters are three inches and above.
MR. ROBERTI: And just one other question, there's no health issues with the service that's owned by the customer being lead, is it?
MR. GIASSON: If they flush their line, no, there are no issues.
MR. ROBERTI: What does that mean?
MR. GIASSON: If they -- we put a customer notification out there. If you have a lead service line, they should flush your line for three minutes so that whatever water that's stagnant in that service line flushes out and you get water that's from the main. So if -- in

Page 13

other words, if you have a lead service, we have -- we recommend that you flush that line. You open your tap, flush that water that's stagnant here and you're getting water from the water main.
MR. ROBERTI: Any documented health consequences if you don't do that?
MR. GIASSON: I don't think so. I don't know if there's -- I don't think there's a whole a lot of literature out there.
MR. ROBERTI: And just one other question, will you still have to maintain a 9.7 percent pH balance because of the --
MR. GIASSON: The pH, we'll get to that in a minute.
MS. CURRAN: In addition to advising the customer to flush the line for three minutes, do you also advise them to flush with cold water?
MR. GIASSON: That's kind of the anecdotal term we put out there, flush it for three minutes until it's cold. Usually if it's cold, it means it's out of the main.
MS. CURRAN: So you definitely shouldn't turn on the hot water?
MR. GIASSON: Right. Right. I don't

Page 14

know the exact term, but we say turn on your cold tap, yeah. So this is just getting into some statistics on our LSR program, replace about 10,000. As Boyce said, these are on our side, the public side. And it's interesting to note that, as part of this program, we offer -- we offer to the customer to -- we make our contractor available if they want to do their private side. We actually give them a cost estimate. I'll get into that a little later. And of the -- during the program of the 10,000 that we offer or that we did, only less than 2 percent actually did their side. We also -- as part of that, we offered an interst free loan for a year. And also, it's also important to note, if somebody -- if a customer does the private side, we'll do the public side.
MR. DeSIMONE: I have a question. How much would it typically cost to have the private side replaced?
MR. GIASSON: Correct me if I'm wrong, Paul. I think the numbers range anywhere from 3 to $5,000. Actually, could be low as a thousand depending on the length of the service, how deep

Page 15

it is.
MR. GADOURY: You've got extremes that could be 1,000. You get some that are 7 or 8,000 depending on what you're dealing with on the property, sidewalks, trees and walks.
MR. ROBERTI: If you do replace that service, do you give the customer a fixed price or do you charge by the hour or do you say we think it's going to be 4,000 but if you hit a snag it might be 15?
MR. GIASSON: Yeah, we -- so on the private side, you're asking?
MR. ROBERTI: Yeah.
MR. GIASSON: On the private side, we give them a cost estimate. It's their obligation to contract with the contractor. Like, we'll give them a rough number based on length. We'll look at the length. We'll look at the house. Say here's what we think it will be but it's -- the customer -- it's on the customer to do that contract with the contractor.
MR. SPINELLI: Excuse me. Boyce Spinelli. To me, it's not surprising that only one-and-a-half percent of the 10,000 residences in which we replaced our side shows they replaced

Page 16

their side, because, remember, we're constantly telling people if you're concerned about it, flush your water for three minutes in the morning. So me, as a consumer, if I knew that, well, I have the choice of spending $5,000 to replace my half of the line or flushing the water before I make my coffee in the morning, I mean, running it until it gets cold, I'm going to probably choose that option. So to me, again, it's not surprising that we had such a low percentage.
MR. DeSIMONE: I have another question. How much does it typically cost to replace your side?
MR. GIASSON: Roughly about $4,000 a service. And, actually, I think we had it. It was back here. Sorry to go back on you. So if we, roughly, replaced about -- roughly about 2,000 a year, so that's -- it costs about $8 million per year, so it averaged out to about 4,000 a service. And just -- I wanted to outline some of the notification process. Most of this is spelled out in the lead-copper rule.
MS. WILSON-FRIAS: Can I interrupt for one second?

Page 17

MR. GIASSON: Go ahead. I'm sorry.
MR. DeSIMONE: Cindy, identify yourself since you're having everybody else do it.
MS. WILSON-FRIAS: You just said that it was approximately 4,000 for the public side. Was it also 4,000 for the private side? Because I --
MR. GIASSON: Our side is generally about $4,000, whether it's a long side service or a short side service. And then the customer side, the private side, could range anywhere between 1,000 to $10,000 depending on how long their service is. What you have to replace is all kinds of variables that go into that price.
MS. WILSON-FRIAS: Okay. Thank you.
MR. GIASSON: So this is just the customer notification process that we go through. Again, it's required by the lead and copper rule. We let the customer know 45 days in advance that we're going to be replacing their side of the -- actually, we send them a letter before the construction season and letting them know we're going to be doing work on the street, give them the option to have us do a cost estimate for them, a rough cost estimate. Then we'll -- as it gets closer to when we're going to do their

Page 18

service, we'll give them a 45-day notification and a 14-day notification. And, again, this is all spelled out in the lead and copper rule.
MS. CURRAN: And does Providence Water put all this information online?
MR. GIASSON: I'm not sure. We might have it online. I'd have to check on that.
MS. CURRAN: And is the list of the replacement areas available online?
MR. GIASSON: Again, I'd have to check on that. I think we try to -- we're moving ahead in the presentation, but we've -- as you know, we've switched from lead services to main replacements. So we let folks know that with the main replacements going on -- I think we have it online. I'd have to double-check that for you.
MR. ROBERTI: Let me ask the Division. The Division maintains the website. Does the Division put any of this stuff on the website for people accessing our website?
MR. BELL: No, we don't. John Bell. Our website does link to Providence Water and I recall that Providence Water did include maps of the areas that we were doing lead service replacement. I guess I do have a question of

Page 19

Providence Water. Is this still an ongoing program?
MR. GIASSON: That's a good question. Yes. Now that we've switched to main replacements, we'll replace our -- the public side as a lead service as part of that main replacement program.
MR. BELL: And then the same thing with the customer notification --
MR. GIASSON: Yeah, all that because --
THE REPORTER: One at a time.
MR. GIASSON: Go ahead. I'm sorry, John.
MR. BELL: As part of the main replacement program and the associated service replacement you do, you still notify the customer about replacing their side as they wish?
MR. GIASSON: Yeah. All this is still in place because we're still out of compliance with the lead and copper rule.
MR. BELL: I have another question. Do you know how many -- by transitioning to main replacement how many services you're doing a year now?
MR. GIASSON: I think this -- I'll get

Page 20

the exact number for you, John. I think this year was about 3 to 500. Typically, if we're rehabbing old cast iron mains, generally lead services are associated with that. Does that answer your question?
MR. BELL: Yes.
MR. GIASSON: All right. Just what I wanted to throw -- show you was this is kind of a flow chart of the 45 days and how that flows. And I just wanted to add into that that that we also include a 72- and a 24-hour door hanger so that if it's not an owner-occupied residence we'll let them know that something's going on. And then also if required -- we're required to take a lead sample post lead service replacement, and this is just a notification about the sample being taken and then we collect and analyze the sample.
And then we also, within the last couple of months, sent out this brochure about information on lead. And if -- we can make that available to folks if they -- if they want to.
So right around the 2010 time frame, a lot of data was coming in on partial lead service replacements. And the data -- the data showed

that there really -- specifically the EPA was really worried about the efficacy of partial lead service replacements. So what the EPA did was they had the Science Advisory Board take a look at all available data relating to the partial lead service replacements. And basically the finding that they had was that the quantity and quality of available data are inadequate to fully determine the effectiveness of partial lead service line replacements in reducing lead -- drinking water lead concentrations.

So as a consequence of this, the EPA is looking at -- is relooking at the lead and copper rule and also looking at the -- rethinking the requirement of partial lead service replacements. As part of that, DOH -- DOH kind of changed their thinking on how they wanted to do the partial lead services replacement. So in 2012, we entered into a consent agreement with the Department of Health. As part of that consent agreement, they asked us to convene an expert panel. The panel was comprised of folks from Academia, the water profession and some consultants. And it was actually -- the consent agreement was executed on June 12th and the

expert panel was required to produce a report by August 31st.

This is just a list of the folks, Mark Edwards, Dan Giamar, Mike Schock from the EPA. Mike is generally considered one of the foremost researchers on corrosion control and distribution systems and it was -- he was somebody that we were really glad to have on this panel.

So the expert panel met and they came up with some recommendations. The real big recommendation that they asked -- that they came up with was returning back to our pre-2005 pH, which was 10.2, and also they asked us to look at starting a unidirectional flushing program. And then in addition to -- in addition to going back to our pH, they wanted us to expand our lead service line sampling program to really look at what's happening within that service line, as you had mentioned earlier.

MR. SPINELLI: Again, Boyce Spinelli, I don't know if it's appropriate to make this comment now, but Providence Water initiated this. Providence Water for a long time, to be very blunt here, felt we were throwing rate payer money away. What sense does it make to replace

half of the lead service line and leave half in place. So you're not only not addressing the half that's in place, you're not addressing any lead plumbing that's inside the house, nor a lot of brass fixtures have lead components. The analogy I use, you go to the surgeon with a cancerous tumor and he says I'm going to remove half of if because you're better off with half than the whole thing. Well, that's not necessarily true. Maybe in cutting half of it open it's going to spread quicker throughout your body or something. I mean, it just never made sense. And so it was a -- and even the EPA was having second thoughts, and that's why -- I mean, that's why we're allowed to discontinue spending 7 or $8,000,000 of rate payer money and replacing half of the problem and diverting that money to where we feel the rate payer gets a true benefit, and that is replacing unlined cast iron mains. And we'll get into that a little bit later.

MR. ROBERTI: When you say "unlined cast iron mains," that's just a separate capital requirement that you have going or is that related to the lead?

MR. SPINELLI: It's related -- well,

very good question. We'll explain that a little bit later. Replacing the unlined cast iron mains really has two benefits. One definite benefit is that that's why we get these red water complaints. Some of you here may have experienced that, and we'll show you pictures of what an unlined cast iron main looks like. You get the tuberculation and it causes red water. That's why we're doing the unidirectional flushing and that's why we want to replace that. But, also, when we convened the expert panel, there's some growing evidence that there is a link between iron corrosion and lead corrosion. And so we'll get into that a little bit later.

MR. ROBERTI: And given what you've said, it's not that the federal requirement for the replacement that you need to do 1,800, you still have to do that, is that --

MR. SPINELLI: No, we -- that's what the consent agreement provided, that we no longer need to do that. But because there's no free lunch, they required some quid pro quos, like, okay, get the expert panel, study this, do a report, increase your sampling, et cetera. And we'll get into all of that.

Page 25

MR. GIASSON: In addition to these other requirements, they were asking that we also -- kind of what Boyce alluded to -- look at other things that may be causing our red water issues and our high lead concentrations.
MR. McELROY: Can I interrupt you for a minute? Can you go back to the previous slide?
MR. GIASSON: Absolutely.
MR. McELROY: Are we doing those things? Have we started doing the unidirectional flushing.
MR. GIASSON: That's a good point, Mike. For those of you who were on the tour and saw the loops that we had at Academy Ave, we've constructed some additional experimental types at the treatment plant and we're starting to do some pipe loops for alternative corrosion control strategies.
MR. McELROY: And you've started doing some UDF?
MR. GIASSON: Yes.
MS. CAMARA: Gregg, quick question. Sharon Colby Camara with the Commission. If Providence Water never reduced the pH, would you be in this mess now?

Page 26

MR. GIASSON: I'm expressing my opinion. Probably not, but I -- we won't know. We won't know. Maybe we start -- well, actually, there's probably a good lead into this slide. We switched to our pH -- pre-2005 pH in March of 2013 earlier this year. So we're collecting a lot of data as to the efficacy of changing to the higher pH. We'll know more probably the end of this year, early next year, as to once we start doing more lead and copper compliance if that was the wrong decision.
MS. CAMARA: So the data that you received back in -- when you reduced it, when was that?
MR. GIASSON: '05.
MS. CAMARA: Did that substantiate reducing it?
MR. GIASSON: Yeah. When Providence Water reduced the pH back in '05, it was -- not a lot of folks -- not a lot of utilities have a high pH around 10.2, so the recommendation was based on some EPA empirical data. And it looks like that empirical data, it didn't take into account the cast iron main and all the other issues of such a large system with all our cast

Page 27

iron main was really the issue.
MS. CAMARA: So the study was done by whom?
MR. GIASSON: Camp, Dresser & McKee.
MS. CAMARA: And it was submitted to the Department of Health for approval; is that accurate?
MR. GIASSON: The treatment change was submitted to the Department of Health for approval. They submitted their report to us, correct, Paul?
MR. GADOURY: CDM submitted it to us and we submitted it to DOH. I think an important point to make -- Paul Gadoury -- is that CDM conducted the study but they relied heavily on information and research that had been conducted by Michael Schock with the EPA who was one of the nationally recognized, you know, gurus when it comes to lead issues and water. And he's done a ton of research and he's -- so they work closely in concert with him. And I think that low solubility point of 9.7 came through some of his own experimentation. So there was some good solid, you know, expertise behind that recommendation at the time.

Page 28

MS. CAMARA: What is the data showing you now from March to present?
MR. GIASSON: As of right now, it is temperature dependent. But it looks like it's lowered -- across the board, it's lowered, the lead in the service lines, but, again, it's kind of -- we need to kind of get more data to truly understand what the efficacy is.
MR. ROBERTI: Brief question. Reading that chart, am I to understand it correctly, prior to March 25th, 2013, had you not done a unidirectional flushing program?
MR. GIASSON: Correct.
MR. ROBERTI: There had not been one in place prior to that date?
MR. GIASSON: We piloted it late in 2012 knowing that we were probably going to head down that road. We did some pilot areas. I think we did Fox Point area. We did some pilot areas to see if the program would work and it was very successful.
MR. SPINELLI: Excuse me. I don't know if this would -- if this would be a good segway. Providence Water, prior to that, we did a lot of flushing, but a true UDF is quite a bit

Page 29

different.
I don't know if we should take a couple of minutes and either Paul or Gregg explain what's involved in UDF. In other words, whenever we would get complaints about -- a person would call with a red water complaint, we would go out and spot flush. We did a lot of that.
But Paul or Gregg, could you please -- I think it's important to take a minute and just explain briefly what's involved with a true UDF, about the hydraulic modeling and --
MR. GIASSON: Yeah. A UDF program, essentially, we take the hydraulic model that we developed and it's really a systematic or a surgical flush of pipes in our system where you isolate a certain pipe and then you open up a hydrant and you just flush particular pipes in your system.
And the idea behind that is that you just -- a traditional flushing program you're just opening up hydrants and flushing water out of the mains. The water could come from any of the mains in that area. But a unidirectional flushing program really takes -- if you know you have an old pipe that has dirty water in it, it

Page 30

really surgically takes that water through that main and out that hydrant. And it's -- it's less susceptible to water quality complaints or system upsets.
MR. SPINELLI: And, again, I'm not an engineer, but the hydraulic model tells you what valves to keep open and what valves to shut, what flow that you need to get through that pipe and how long to flow the water to get the effect that you want. And you always have -- you're not flushing -- once you clean out a system that you're not then subsequently flushing dirty water, you know, back through that. So it's fairly involved and that's what we're doing now.
MS. CAMARA: How is this water captured? Is this unaccounted for water?
MR. GIASSON: Yeah.
MS. CAMARA: So when you're advising your customers to run their tap for three, five minutes or whatever, how does that affect your conservation efforts?
MR. GIASSON: How does running their tap --
MS. CAMARA: Yeah. Does that --
MR. ROBERTI: If every residential

Page 31

customer ran their water for three minutes, what gallonage is that, and how much does that increase their rate and how much does that increase their rate to Narragansett Bay Commission to?
MR. GIASSON: I don't have those numbers. I will say that we're only recommending the folks that have lead service lines, which at this point is about 15,000 services out of 72,000.
MS. CAMARA: Are you capturing the gallons that -- are you capturing the amount of water that is --
MR. GIASSON: That we're flushing or the customer is --
MS. CAMARA: Either one.
MR. GIASSON: We're capturing how much water we flush with the unidirectional flushing program. We're not capturing -- I don't know if we would have the ability to capture what goes through a customer's meter.
MR. GADOURY: But that would not be unaccounted for water, but if you run the numbers, though, it's extremely minor. And it sounds like a lot of water, you know, two or

Page 32

three gallons a minute for three minutes, but in the big picture it's minuscule, you know.
MR. SPINELLI: It's like two or three cents. It's like two or three cents.
MR. McELROY: Jeanne.
MS. BONDAREVSKIS: Jeanne Bondarevskis. In the notice that we send to the customers, we recommend that they flush their -- or run their water for three minutes which uses approximately three gallons of water and that's approximately a penny in our current rates.
MS. CAMARA: Per day?
MS. BONDAREVSKIS: Per day, yes.
MR. GIASSON: So, again, as part of the expert panel recommendations, we initiated a full fledged unidirectional flushing program. And we also, as we discussed, we initiated a service lines sequential sampling program to kind of really look at what's happening in that lead service line.
And Boyce alluded to this earlier, but as part of the expert panel, some of the research that the expert panel members were doing were looking at the possible evidence suggesting a link between high iron release, which comes from

Page 33

our cast iron main, and the lead release out of the lead service line. And they also were suggesting that there was a link between microbial activity in the system and lead release in the service lines.
So, essentially, main replacement and unidirectional flushing helped reduce the iron levels and the microbial activity, therefore, it could reduce lead levels.
As part of that information, we renegotiated a second agreement -- consent agreement with the DOH. The DOH, they granted another stay of the lead service replacements so we didn't have to do another 7 percent.
And the two big parts of the 2013 consent agreement was the main -- ramping up the main replacement program and instituting a unidirectional flushing program, which, like I said, we knew this was coming and we did a pilot in 2012.
Again, these two requirements were really a function of what was coming out of the expert panel in their -- and what they were kind of thinking was a link.
So I just want to take a quick moment to talk

Page 34

about the IFR plan. The IFR, the rules and regs went into place in 1995. Providence Water submitted their first IFR plan in 1996. The -- we were required to put in a 20-year program. These plans were updated every five years. DOH approves these plans and the PUC reviews and funds these plans.
And this graph I just want to show quickly, these amounts are the 20-year amounts in each one of these programs. And really what this shows is that main replacement and lead service replacements has always been part of our IFR program even back in 1996, but it's -- as you can see, the focus has shifted a little bit. In 1996, we were more focused on the treatment plant and that focus, obviously, has shifted in 2010 and 2013.
Another point to make here is that as part of the consent agreement with DOH they asked us to do an updated IFR and within that updated IFR they asked us to ramp up our main replacement program.
So as part of the negotiations of the consent agreement with DOH, they had initially requested that we replace all -- rehabilitate all 550 miles

Page 35

of our mains in ten years. As you can see, there's a whole host of issues with that. There's the cost, there's just manpower, just -- the upset to your distribution system, there was just a lot of issues with that.
So we negotiated with the Department of Health. And in addition to -- I think we had about six or nine million allocated for mains in 2014 and we just -- and I don't know the exact numbers, but we added to those numbers to come up with these figures here, 12 million in 2014, 15.5 million in 2015 and 16.4 in 2016. These numbers are based on what we think from a manpower perspective we can handle in a fiscal year and also what we hope won't effect our distribution system while the work's going on.
MS. WILSON-FRIAS: So, Gregg, did you negotiate that you would spend $12,000,000 or did you negotiate that you would replace a certain number of miles?
MR. GIASSON: That's a good question. We have a rule of thumb of it costs about a million dollars a mile. Now, that number can go up or down based on if you do a cleaning on lining or you do main replacement, if it's in a

Page 36

busy city street versus a cross-country road. It's just -- that number is just a rule of thumb. And it was because we don't -- like, we don't -- some mains we want to -- this 100-year cast iron pipe is structurally as good as the day it was installed about 100 years ago.
MS. WILSON-FRIAS: So you would want to clean and line that?
MR. GIASSON: Yeah. As part of this -- as part of the DOH consent agreement, we were required to submit a main replacement program, which we did. And there's -- and that program takes into account age, pipe material, you know, history of breaks. So we did all that to kind of look at which pipes in our system we needed to rehabilitate, which pipes in our system we needed to replace.
MR. SPINELLI: Excuse me. If I may just add, that was a very good question and we consciously did it in dollars, because as Gregg said, there are too many variables if you commit to miles because some mains are good candidates for cleaning and lining, some are not, et cetera. And then the other thing I wanted to point out, Gregg just alluded to trying to determine

Page 37

which mains you replace first or which ones have the highest priority because it's not necessarily a function of age. Some of the oldest pipes might be the less problematic. And this is where the UDF program could help us because some of these mains are going to respond much better to UDF than other mains. And where a main responds well to UDF, then that might be a main that you wouldn't have to address right away.

MS. CAMARA: How many miles total do you have of unlined cast iron?

MR. GIASSON: As of right now, I think it's right around 550 miles of unlined cast iron.

MS. CAMARA: And have you replaced any of it?

MR. GIASSON: Yeah. Yeah. We started this program in calendar year 2011. I think we've roughly done about 15 miles.

MS. CAMARA: 15, one five?

MR. GIASSON: 15, one five. We can get the exact number for you.

MR. GADOURY: I would just like to point out that we have actually always replaced mains since the inception of the program in 1996, but

Page 38

the more earnest and aggressive efforts started when Gregg just mentioned in --

MR. GIASSON: 2010.

MR. GADOURY: But it's not that we ignored main replacements. We've been doing main replacements from Day One.

MR. GIASSON: So we just want to show you a picture. This is a picture of a cast iron main that has tuberculation on it. And then this is -- I hope you can see this -- the cast iron main that was cleaned and lined and you can see the cement lining in here.

MR. SPINELLI: Excuse me. Is that a six-inch or do you know?

MR. GIASSON: Eight. Tried to show a ruler for a scale. I think this is eight also.

MR. SPINELLI: Okay.

MR. GIASSON: I also want to point out that you can really see -- I don't know the age. If I had to guess, this pipe's probably 80 to 100 years old and that cast iron is still in pretty good shape. In the second part of the consent agreement, the major part was the unidirectional flushing program. We modeled our program after Boston

Page 39

water and sewer; however, the DOH came in as part of the negotiation they wanted to flush our system in two years. And that's -- it just -- that would be just too burdensome of a task and it was just --

MR. DeSIMONE: Can I go back to the prior slide?

MR. GIASSON: Yeah.

MR. DeSIMONE: How do you clean that? How is that done?

MR. GIASSON: Cleaning and lining?

MR. DeSIMONE: Yes.

MR. GIASSON: If you would clean and line this pipe, what they typically do is it's -- they -- there's a mechanism, they call it a pig, it's a pig and they scrape -- physically scrape the cast iron line. So you're taking off this tuberculation plus a little tiny bit of the cast, cast iron. And then what they'll do is they'll -- behind that, they'll have a machine that has -- that lines that pipe with the cement lining.

MR. DeSIMONE: Okay.

MR. GIASSON: It's actually really -- it's a really good technique. Pawtucket's done a

Page 40

bunch of it. We've done some. It's a pretty -- it's pretty well-known. It's a pretty -- oh, the term I want, it's well-known. A lot of people do it throughout the country.

MS. WILSON-FRIAS: And what happens to all of that stuff?

MR. GIASSON: It gets flushed out of the hydrant. Actually, I'm sorry, take that back. They'll cut in a test pit, so it will cut out a section of pipe and all that stuff will be removed. I'm not sure as far as the discharge. I don't -- I don't know exactly where they discharge it to, whether it's to the sewer or they put it to a holding basin and they treat it. I don't know.

MS. WILSON-FRIAS: So would it be a part of the -- so that would be separate from, like, the sludge removal or anything like that?

MR. GIASSON: Yeah. Yeah. The sludge removal -- like, you're talking about at the plant?

MS. WILSON-FRIAS: Yes.

MR. GIASSON: Yeah. That's separate, yeah. This is out in the distribution system. So we negotiated the following with DOH.

Page 41

They asked us to do 10 percent of our system by 2013, 15 percent of this system by 2014, and -- by the end of 2014, and then 20 percent by the end of 2015.
Like I said, we modeled it after Boston water and sewer. Boston, I believe, does it every five years, the entire system every five years -- unidirectionally flushes their system every five years. And that's the goal. At some point, we want to flush our entire system every five years. In this program, we'll just -- we'll keep it going in perpetuity.
So I just wanted to take a quick note. Again, as I mentioned earlier, these are straight out of the -- off the EPA website, but just wanted to -- the EPA's looking at a whole host of things.
You know, they're looking at this lead sampling protocol based on right now it's first flush for the -- if they're compliance samples. They're looking to investigate, maybe want to take a sample not exactly -- not necessarily the first flush, but maybe a couple minutes into the service line. This sample site collection, they might ask utilities to change their lead and

Page 42

copper rule sites. And the other real important piece is that they're reevaluating the whole partial lead service replacement program.
So I just wanted to add some quick take aways. The main -- rehabilitating mains, whether it's cleaning the lining or replacement, is a best management practice in all water systems.
And so like I said, we've had -- Providence Water's had main replacement in the IFR plan and it's really ramped up as part of the DOH consent agreement.
Flushing is also a best management practice and that's a program that -- as we will with the main replacement program, the flushing program will keep it going. It will be ongoing processes forever.
And then the other point that I wanted to point out -- the other point I wanted to make was that we will continue to do lead service replacements as part of our main replacement program.
That's what I have. Hopefully I didn't bore you to tears. Any other questions?
MR. McELROY: I can say that we have a substantial amount of money in the Wright (sic)

Page 43

case request that would allow us to fund the full implementation of a unidirectional flushing program, and that will continue, as Gregg said, in perpetuity. So that's something that will go on year after year after year and we're not going to stop doing that assuming the PUC provides us with the necessary funds to do that.
With regard to the cast iron main, either replacement or lining, we have a substantial amount of money to ramp that program up, as he mentioned, because we're required to do both UDF and the replacement by the new DOH consent decree. So there's a lot of money. Probably the biggest part of the money that we've asked for in this rate case deals with the cost of doing the online cast iron replacement or realigning.
So we were very pleased when Cindy suggested that we make a technical presentation on this because it allows us to focus on this one issue and explain to the Commission why it is we're asking for this much money for these two specific projects.
And I think the other thing I have to emphasize, and I'm sure the Commission understands, but we're required to distribute

Page 44

safe and potable water. And the person that's constantly looking over our shoulders for that purpose is DOH, Department of Health. And they tell us what we need to do in order to make sure that the water is at all times safe and potable and whether that's what we have to do in terms of lead service replacements, main replacements, unidirectional flushing, sampling, whatever it might be, all of that has to be approved by DOH which is why we have these consent decrees.
DOH, as you probably know, acts as the state agency for the EPA. These rules, the lead and copper rule, for example, are established by the EPA. And then the DOH is the state agency that carries them out and enforces them. And then when we enter into consent decrees with them, that's why we end up here for the funding in order to carry that work out. So that's a good part of the case and that's why we're here. So thank you for the time.
MR. SPINELLI: I'm sorry. Go ahead, John.
MR. BELL: I have a couple of additional questions. Does the City of Providence have a paving program? Is that impacting your program

Page 45

at all?
MR. GIASSON: Yeah, we -- we had to relook at the mains that we wanted to replace as part of that paving program. Once they pave, there's a five-year moratorium. But I -- I'm not -- I have to check on it, but I'm sure that whatever we had to do we either did this year or we're going to do next year to kind of keep ahead of that.
MR. BELL: So you'll get to it before they pave over the road?
MR. GIASSON: If we determine it's a high priority main in that street, we'll replace.
MR. BELL: Do you have to contribute to the paving program? I mean, you tear up a road and then they're going to pave it next year?
MR. GIASSON: We would have to pay whatever we would normally pay.
MR. SPINELLI: We coordinate very closely with the City on the paving program. And I would like to make just one final comment, if I may, very briefly. Number 1, I want to thank the Commission, the Division, everybody that's here today because we really do welcome the opportunity to educate, and I use that word

Page 46

advisedly, but interested stakeholders because we think it's important.
And the one final comment I want to make -- and this by no means is an effort to pat ourselves on the back, it isn't, but the easiest thing for us to do and we wouldn't be here today -- we could have just continued with replacing 7 percent of partial lead service lines every year at a cost of about $8,000,000 a year, but we honestly did not feel that was a wise expenditure of rate payer money based on the evidence from the EPA, et cetera, et cetera. And we understand your concern and why you needed an explanation of why our focus has changed from A to B and how we got there and we hope that we helped explain that.
MR. ROBERTI: Just a question. When you talked about coordination with the City paving plans, what's your experience with dealing with the gas company? Are they out there, too, doing the same thing as you?
MR. GIASSON: Yeah. Yeah. It's been frustrating to kind of coordinate with them as far as where they're working, where we're working. We're trying to get -- I think the

Page 47

program's in Vista. They kind of have a software you can -- they'll coordinate -- they'll deal with the gas company trying to get what they're -- they'll do work in the street and we'll have our program and they'll kind of coordinate any conflicts, but it has been -- it's tricky.
MR. ROBERTI: So you have had some -- you're both out there trying to do the same thing then?
MR. GIASSON: Yeah. Yeah. Yep.
MS. WILSON-FRIAS: Just a couple of things, and I've gotten sort of lost in the discovery of this case and so forth, and even remembering what was in the testimony. I know that a copy of that consent decree came in somewhere outside the rate case. Was there a copy of the consent decree filed with the rate case?
MS. BONDAREVSKIS: We'll have to get back to him.
MS. WILSON-FRIAS: Will you please provide a copy?
MR. McELROY: We will. Do you want both the '12 and the '13 or the just the '13?

Page 48

MS. WILSON-FRIAS: Both.
MR. McELROY: I'll make sure they're filed if they haven't already been.
MS. WILSON-FRIAS: Okay. Then where the main replacements are going to include the lead replacements, I believe Gregg said that about 300 to 500 lead services would be replaced this year?
MR. GIASSON: This year, yeah.
MS. WILSON-FRIAS: Could you also give an estimate of how many will be replaced annually under the proposal.
MR. GIASSON: Yeah, it will be an estimate. We -- it will depend on the streets that we do next year, but we'll give you an estimate.
MR. McELROY: One thing I -- I'm not trying to do Gregg's job, but not all -- and correct me if I'm wrong, but every time we replace a main, not all of the service lines are lead; is that correct?
MR. GIASSON: You have some copper and some lead.
MR. McELROY: So we may be replacing a main that is not connected to a lead service pipe and, of course, the main would get replaced but

Page 49

we wouldn't replace the pipe because it's not lead. On the other hand, if we run into a lead service that is connected to a main that's being replaced, our side of it will be replaced, am I right?
MR. GIASSON: Uh-huh.
MS. WILSON-FRIAS: And then on Slide 19, you talk about returning to pre-2005 treatment targets for a pH of 10.2. And you said you've been doing a lot of testing and sounds like the total results will be available by early next year. Have you had to make any sort of interim reports to the Department of Health with regard to your --
MR. GIASSON: Yeah, we provide monthly reports.
MS. WILSON-FRIAS: Could we get copies of those?
MR. GIASSON: Sure. Yeah.
MR. McELROY: From when?
MS. WILSON-FRIAS: From March or February, I guess.
MR. GIASSON: Yeah, I think we started the post -- to post the treatment change. We can get you all those.

Page 50

MR. McELROY: So all the post treatment changes reports?
MS. WILSON-FRIAS: Yeah, from February/March, that time frame we talked about. Now, with regard to the -- where you talk about the negotiation of the amount of money that would be spent each year, I believe you said that that's not all new money. That's in addition to what's already included in rates?
MR. GIASSON: Yeah. It was a part of our approved IFR plan.
MS. WILSON-FRIAS: Okay. What was the basis for feeling comfortable negotiating the amount outside of sort of the Commission process, the rate process?
MR. SPINELLI: Well, we -- first of all, I'll attempt to answer that. The consent decree and the Health Department is aware of this, that's contingent on that amount being approved by the PUC. If it's not approved, then we're not going to be able to meet that requirement. And what we did, as Gregg alluded to, I believe the additional money we're asking for in order to ramp up the replacement of online cast iron mains is 6,000,000, so in our mind we wanted

Page 51

to have the increment large enough to really make a difference, so we could really attack this program. I mean, with 550 miles, you know, if you did, you know, five miles a year, you know, we'd be through in 100 years, so we need to be more focused than that. And then always in the back of our mind we wanted to have a rate increase that was, you know, reasonable. And so it was a combination of what we thought we could handle and that would be consistent with the amount that we included in this rate request.
MS. WILSON-FRIAS: Now, did Providence Water also make some sort of payment to Department of Health as part of this consent agreement?
MR. SPINELLI: Yes, we -- it's in -- is it in the --
MR. McELROY: No. No.
MR. SPINELLI: Anyway, in the year -- in the first consent decree, the 2012, we made a $500,000 payment to the State of Rhode Island lead abatement program. The following year that was reduced to 250. And I believe the rationale behind it was that the lead -- the Health

Page 52

Department believed that there is a relatively small amount of exposure for young children, et cetera, from lead and water. Obviously, the main -- the main thrust is lead paint, not water, but they did require that payment and we felt that we would have preferred not to -- you know, to be honest, we would have preferred not to make that payment, perhaps, but we felt that was a lot better than spending $8,000,000 on a program that you had very questionable benefits for.
MR. ROBERTI: What is that used for, the money? Was it in the form of a --
MR. SPINELLI: The Rhode Island Health Department. It's specifically for their lead abatement program and I believe they focus on young, vulnerable, aged population. I just want to add one quick thing. We did a special outreach, we did quite a bit of research, and tried to identify vulnerable age children like young kids. So we tried to identify as many daycare centers as we could, for example. And it's tough because they switch around, but we sent a specialized letter to each one of them and we did that, what, a couple months ago or -- and

Page 53

basically we said, "according to our records you have a lead service" and, again, we reminded them of the risk to young kids with lead and we offered to accommodate them if they wanted to do anything with their lead service. So we did that outreach program also.

MS. WILSON-FRIAS: Okay. From what fund -- or where did the 500,000 and the 250,000 come from?

MR. SPINELLI: They came out of our infrastructure replacement plan.

MR. ROBERTI: Just a question on that. The role of the IFR, DOH has two functions here. One is if there's federally delegated authority and you reach a consent decree, my understanding is that if they required $55,000,000 a year there's nothing the Commission can do about it. But then there's the IFR and I believe there was a Supreme Court case that Mr. Wold over there who's making the funny faces, had argued before the Supreme Court about the role of this Commission and its discretion over spending and rate levels if it's an IFR matter. Can you give any clarification on that? Am I right when I say that?

Page 54

MR. McELROY: I think you are correct, Mr. Commissioner. The first thing I'd like to point out is I'm glad you brought up the $55,000,000 issue on Slide 25. And that's because when we first negotiated, -- and, Boyce, step in and correct me if I'm wrong, but when we first negotiated with DOH on this, they wanted us, as Gregg said, to do it all in ten years. And the cost of doing 550 miles at a dollar a mile in ten years would have been $55,000,000 a year. That would have -- that one issue alone would have doubled Providence Water's rates, doubled it.

So Boyce and the other members of the team went in and negotiated the reduction so that in 2014 the main rehabilitation commitment is $12,000,000 a year, a significant difference. Still going to get the work done, but in a more reasonable fashion. That is done pursuant to the decree with DOH which is pursuant to federal authority and I think that's binding.

With regard to the IFR, we all know there is a statute and the statute says that the IFR process is one where we submit regular plans and update those plans to DOH. As part of that

Page 55

process of the plan being approved, the Public Utilities Commission has the opportunity to weigh in on those. And when that plan is approved, it then has what I'll call a presumptive correctness to it.

And so that if we come to the Commission with a spending request that is pursuant to the approved plan, then the Commission has an obligation, provided it finds that it's just and reasonable and in the best interest of rate payers, to fund it. The Commission does have some discretion if it does find that it's not in the best interest of rate payers to decline to fund it entirely. That's my understanding of the law in that area.

MR. ROBERTI: Thank you.

MR. DeSIMONE: What determines whether a main is going to be replaced as opposed to being cleaned and relined?

MR. GIASSON: If we -- we do -- we can do a condition assessment based on if you do a -- you can do a flow test. You can cut a coupon (sic) out of that main. There are techniques you can do to determine if that cast iron main is in

Page 56

good condition. Or if we have to replace a valve on that line, we'll cut it out, we'll take a look at what kind of condition that cast iron is in. Essentially, if we -- if we feel like the cast iron's in good condition, it's a candidate for cleaning and lining.

MR. SPINELLI: It also -- I'm sorry. And correct me if I'm wrong, but, Paul, excuse me, I'm saying this because I heard you say it one time, another determining factor is if you have a -- the main, how many lead services are on that main. Because if you clean and line and there's a lot of lead services that you would have to replace, there's so much work involved it removes the cost advantage of cleaning and lining in that particular -- can you explain that better?

MR. GADOURY: Yeah. The main savings in cleaning and lining pipe versus replacement is in the excavation and the pavement restoration costs. And when you realign a pipe, as Gregg pointed out, you would excavate a pit at one end of the section you're going to realign and a pit at the other end and you could cover, you know, a fair distance between those pits. So you're

Page 57

doing no excavation in between, no pavement disturbance. So that's where the savings lies. But if you've got a street that's got a lot of lead services on that main, and when we do a rehabilitative main we do want to replace lead services in the process. So now if you've got a lot of lead services at dense concentration, you're going to be doing so much excavation of that street and then subsequent patching that's required that says savings, that excavation and pavement restoration savings goes away. So in that case, it really doesn't make sense to reline.
Another factor in relining is, you know, the configuration of the pipe, long straight lengths of pipe are conducive to relining. If you've got pipes with a lot of bends in them and whatnot, they're not going to conducive to relining. It's tough to draw that pig through there. It's tough to put the cement relining equipment through it. So those are other criteria used in determining --
MR. McELROY: Could I also ask, if we get customer complaints in a particular area of a main of red water, are we trying to prioritize

Page 58

either flushing those mains or replacing those mains?
MR. GIASSON: Yeah, prioritize it as far as flushing. And then it will also -- we keep a scoring system as far as how we rate pipes and that will -- if it has water quality complaints, it will go -- it will give it a higher score for replacement or for rehabilitation.
MR. ROBERTI: What's the average age of a main that can be relined? Is there a -- and I guess in answering that, is there a point at which a pipe is so old that you just don't want to deal with it or --
MR. GADOURY: You could, in actuality -- the earliest pipes in our system date back to 1871 and you could conceivably reline a pipe that was installed in 1871 because, as Gregg pointed out, structurally a lot of those pipes are in great shape. They've got very thick pipe walls.
MR. ROBERTI: And those are the cast iron ones.
MR. GADOURY: Those are the cast iron. So the problem with those pipes is generally not a structural problem. It's not -- don't want to say structural failures. It's, you know, flow

Page 59

obstruction due to the reduced internal diameter due to tuberculation and/or, you know, rusty water problems associated with it, but --
MS. WILSON-FRIAS: Back to the -- those DOH reports that we asked for earlier, is there a narrative on those or are they just a bunch of numbers that go up?
MR. GIASSON: There's a narrative.
MS. WILSON-FRIAS: Okay. Make sure we know what we're getting. And could you just provide a definitive response as to what happens to all of the stuff that gets cleaned out of the main?
MR. GIASSON: Yeah.
MS. WILSON-FRIAS: And could we get the most recent accounting of the level of funding in the IFR account, as far as underfunding and that sort of thing, since we know that's the last account to get funded?
MR. McELROY: We will do that. Gregg, could you tell me what "pig" stands for.
MR. GIASSON: It's a term for the actual -- it's pretty much like a solid ball that they -- when they pull through the pipe, it technically -- the term they call it is a pig.

Page 60

MR. McELROY: It's not an acronym, P-I-G, standing for something?
MR. GIASSON: I don't think so. I'd have to look that up for you. I don't know.
MR. GADOURY: It also has scraper blades on it that helps us scrape through the stuff. It's usually pulled through the pipe with a cable.
MR. DeSIMONE: Do you have an idea in terms of the breakdown as to what percentage of the mains or pipes will need to be replaced versus cleaned and relined?
MR. GIASSON: Not right now, no. I mean, our program that we developed -- we've been developing that's kind of a living, breathing document, and as we go along we'll try to develop that number. I mean, we're going to take -- each year we'll look at what we're going to replace for mains and we'll decide based on the condition assessment and any data we have from the UDF program whether or not we'll replace them or reline them.
MR. DeSIMONE: Thank you.
MR. MANCINI: Bill Mancini. I just have a quick question on the cast iron mains. What

Page 61

conditions of the main or pipes meaning like the 12-inch that would come down, like, a main street rather than the six and eight inches that are on the side streets that you're replacing now which we know are very tuberculated? When you cut into that 12-inch, how does that look or how has it been looking? Is it relatively clean because there's more flow in that main line or is it --
MR. GIASSON: I would say I don't have exact data, but anecdotally I would say that because it has more flow in it, it generally has less tuberculation in it.
MR. MANCINI: They would have less priority than the six- and eight-inch lines.
MR. GADOURY: The other thing, Al, if I could just add, is if you have two inches of tuberculation buildup on a pipe -- if you've got two inches of tuberculation buildup on walls of a six-inch pipe, you've got a two-inch internal diameter --
THE REPORTER: Start over.
MR. GADOURY: Okay. If you've got two inches on a -- buildup on the wall of a six-inch pipe, you're left with a two-inch internal diameter. If you've got two inches of buildup on

Page 62

the wall of an eight-inch pipe, you're left with a four-inch internal diameter. Whereas, if you've got two inches of buildup on a 12-inch pipe, you're left with an eight-inch diameter. So the larger the pipe gets the less hydraulic impact that that buildup has, not that it doesn't have any, you know, so that's why you -- you see a somewhat more dramatic impact on small pipes. And I've seen buildups on -- not that we have four-inch pipes in our systems, but in other systems where somebody has a four-inch cast iron pipe and virtually you could have a half inch flow conduit left in the middle of that pipe basically because of tuberculation buildup.
MR. DeSIMONE: Anybody else have any questions?
MR. McELROY: I just have one question. Joseph Keogh representing Bristol County Water Authority. Did you say that Providence filed its first IFR plan with DOH in 1996, so it was the first one?
MR. GIASSON: I didn't.
MR. ROBERTI: I remember that.
MR. McELROY: I remember when the law was passed. That's why --

Page 63

MR. ROBERTI: John Morano was the acting administrator.
MR. DeSIMONE: Any other questions? Anything further?
MR. McELROY: Nothing further, Mr. Commissioner. Thank you.
MR. DeSIMONE: Okay. Thank you.
THE REPORTER: Did you say you want a copy?
MR. McELROY: Yes, I do. And I like the minis, the four on a page. The big one is a waste of time. Don't even send it to me. Okay. And can you send it electronically as well?
THE REPORTER: I sure can.
MS. WILSON-FRIAS: And then the Commission gets an original and a mini.
(Deposition adjourned at 11:18 a.m.)
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Page 64

C E R T I F I C A T E

I, Devin J. Baccari, hereby certify that the egoing is a true, accurate, and complete transcript my notes taken at the above entitled hearing.

WITNESS WHEREOF, I have hereunto set my hand this d day of October, 2013.

DEVIN J. BACCARI, NOTARY PUBLIC
My commission expires 8/17/14

October 8, 2013
: PROVIDENCE WATER SUPPLY BOARD

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