National Drinking Water Advisory Council

Conference Call: Deferred Discussion on Lead Service Line Replacement Questions

Meeting Notes

Friday, November 18, 2011

EPA Headquarters
Washington, DC

Prepared for:
United States Environmental Protection Agency
Office of Water
Office of Ground Water and Drinking Water
1201 Constitution Avenue, NW
Washington, DC 20004

ATTENDEES

National Drinking Water Advisory Council (NDWAC)

Ms. Jessica Claire Godreau, P.E., BCEE, CPM, Chief, Water Supply Section, North Carolina Department of Environment and Natural Resources, Raleigh, North Carolina

Mr. Elston Johnson, General Manager, Public Drinking Water Program, Texas Commission on Environmental Quality, Austin, Texas

Ms. Maria Elena Kennedy, Executive Director, Quail Valley Environmental Coalition, Rancho Cucamonga, California

Ms. Sonja Massey, P.E., Chief, Groundwater Branch, Alabama Department of Environmental Management, Montgomery, Alabama

Ms. Olga Morales, Chair of NDWAC, Rural Development Specialist, Rural Community Assistance Corporation Dona Ana, New Mexico

Mr. Douglas M. Owen, P.E., BCEE, Vice President and Chief Technology Officer, ARCADIS/Malcolm Pirnie, Inc., White Plains, New York

Mr. David Saddler, Manager, Water/Wastewater and Propane Dept., Tohono O'odham Utility Authority, Sells, Arizona

Ms. Lisa Sparrow, President, Utilities, Inc., Northbrook, Illinois

Ms. Marcia A. St. Martin, Executive Director, Sewerage & Water Board, New Orleans, Louisiana

Ms. Hope Taylor, Executive Director, Clean Water for North Carolina, Durham, North Carolina

Mr. Bob Vincent, Environmental Administrator Bureau of Water Programs, Department of Health, HSEW, Tallahassee, Florida

Ms. Jennie Ward-Robinson, Ph.D., President and Executive Director, Institute for Public Health and Water Research, Skokie, Illinois

Ms. June Weintraub, Sc.D, Senior Epidemiologist, Environmental Health Section, San Francisco Department of Public Health, San Francisco, California

Mr. Craig Woolard, Ph.D., P.E**.,** General Manager, Anchorage Water and Wastewater Utility, Anchorage, Alaska

Centers for Disease Control and Prevention (CDC) Liaison

Max Zarate–Bermudez, MS, MPH, PhD, Epidemiologist, Environmental Health Services Branch, Center for Disease Control and Prevention CDC/ National Center for Environmental Health (NCEH), Atlanta, Georgia

Science Advisory Board (SAB) Liaison

Mr. Jeffery Griffiths, PhD, Director, Graduate Programs in Public Health and Associate Professor of Family Medicine and Community Health , Tufts University School of Medicine, Boston, Massachusetts
Chair, EPA Science Advisory Board, Drinking Water Committee

Environmental Protection Agency (EPA) Attendees

Cynthia Dougherty, Director, Office of Water, Office of Ground Water and Drinking Water, (OW/OGWDW)

Pam Barr, Director, OW/OGWDW/Standards and Risk Management Division (SRMD)

Ajoke Agboola, Office of Enforcement and Compliance Assurance (OECA)
Valerie Blank, Office of Research and Development **(**ORD)
Eric Burneson, OW/OGWDW/SRMD
Tom Carpenter, Office of the Administrator, Science Advisory Board Staff Office (OA/SABSO)
Leslie Darman, Office of General Counsel (OGC)
Miguel Deltoral, Region 5
Carol DeMarco, OECA
Jerry Ellis, OW/OGWDW/SRMD
Glen Farber, Office of the Administrator, Office of Policy (AO/OP)
Jamie Harris, OW/OGWDW/DWPD
Jeffrey Kempic, OW/OGWDW/SRMD
Andrea Porter, Region 5
George Rizzo, Region 3
Nicole Shao, ORD
Mark Weir, OW/OGWDW/SRMD
Paul Wierenga, OECA

Designated Federal Officer (DFO)
Suzanne Kelly, OW/OGWDW

Members of the Public
Jesse Bernhardt, City of Dubuque, Water Department, Dubuque, Iowa
Scott Biernat, Association of Metropolitan Water Agencies (AMWA), Washington, DC
Graham Brannin, City of Tulsa, Oklahoma
David Cornwell, Environmental Engineering and Technology, Newport News, Virginia
Laura Dufresne, The Cadmus Group, Arlington, Virginia
Julie Frazier, Butler County Water and Sewer Department (BCWS), Ohio
David Garcia, City of Riverside Public Utilities, California
Denise Garrett, Washington State Department of Health
Lee Garrigan, Environmental Council of the States (ECOS), Washington, DC
Cathy Gillingham, City of Tulsa, Oklahoma
Carla Glaser, New York City Department of Environmental Protection
Erik Gustafson, Caro Gordo County Public Health, Mason City, Iowa
Boris Hrebeniuk, North Carolina Department of Environment and Natural Resources, Burgaw, North Carolina
Stacy Jones, Indiana Department of Environmental Management, Indianapolis, Indiana
John Kmiec, Water Program Supervisor at City of Tucson, Tucson, Arizona
Charles Maddox, City of Austin Water Utility, Austin, Texas

William Maier, Board of Water and Light, Lansing, Michigan
Paul Niman, Massachusetts Department of Violence Protection
Darrell Osterhodt, Association of State Drinking Water Administrators (ASDWA)
Amena Saiyid, Bureau of National Affairs, Arlington, Virginia
Anne Sandvig, The Cadmus Group, Watertown, Massachusetts
Steve Schneider, Saint Paul Regional Water Services, Saint Paul, Minnesota
Chet Shastri, Three Rivers Filtration, Fort Wayne, Indiana
Matthew Smith, Philadelphia Water Department, Pennsylvania
Rick Tecchio, United Water, New Jersey
Steve Via, American Water Works Association (AWWA), Washington, DC
Lucy Wan, Edonik
Greg Welter, OBrien & Gere Engineers, Washington, DC

1. Meeting Agenda

November 18, 2011

10:30am	Open Meeting	NDWAC DFO, Olga Morales, NDWAC Chair Cynthia Dougherty, OW/OGWDW
10:30-10:40am	**Recap of Questions Posed to NDWAC at July 21-22 Meeting:** A. LSL replacement requirements under the current LCR: 1) Should the requirement for partial LSL replacement continue? 2) Should the requirement for partial LSL replacement be eliminated in favor of full replacement? B. Voluntary/infrastructure partial LSL replacement that are not currently subject to LCR Requirements: 1) Should there be notification and sampling requirements for these instances? 2) How would these requirements be imposed and enforced when the systems are in compliance with the Rule?	Pam Barr, OW/OGWDW/SRMD
10:40-10:45am	**Recap of Previous Council Member Discussion:** • Summary of last meeting discussion including the decision to defer recommendations until SAB report was finalized	Council Chair Council Members
10:45-11:15am	**Final Science Advisory Board Report: Evaluation of the Effectiveness of Partial Lead Service Line Replacements:** • Final report findings • Q/A	Jeffrey Griffiths, Chair, EPA SAB Drinking Water Committee NDWAC Council Members
11:15-12:15pm	**Council Deliberations and Recommendations:** A. LSL replacement requirements under the current LCR: Questions 1 & 2 B. Voluntary/infrastructure partial LSL replacement that are not currently subject to LCR Requirements: Questions 1 & 2	Council Chair Council Members
12:15-12:30pm	**Wrap Up and Adjourn**	Olga Morales, NDWAC Chair Cynthia Dougherty, OW/OGWDW

2. Meeting Summary – Friday, November 18, 2011

A. Open Meeting

Opening Remarks

Ms. Suzanne Kelly, the Designated Federal Official for the National Drinking Water Advisory Council (NDWAC), opened the conference call. On behalf of Cynthia Dougherty and the Office of Ground Water and Drinking Water, Ms. Kelly welcomed and thanked the Council members for attending this off-cycle conference call.

Ms. Olga Morales, Chair for NDWAC Council, stated that the goal of today's call is for the Council to conclude discussions on the questions posed to the Council during the July face-to-face meeting related to the Lead and Copper Rule (LCR).

Ms. Pam Barr recapped the lead and copper rule questions raised to the Council at the last meeting:

A. Lead Service Line (LSL) replacement requirements under the current LCR:
   1) Should the requirement for partial LSL replacement continue?
   2) Should the requirement for partial LSL replacement be eliminated in favor of full replacement?

B. Voluntary/infrastructure partial LSL replacement that are not currently subject to LCR Requirements:
   1) Should there be notification and sampling requirements for these instances?
   2) How would these requirements be imposed and enforced when the systems are in compliance with the Rule?

The Council had decided to postpone discussion on these questions until after the Science Advisory Board (SAB) report on lead service line replacement was issued: Ms. Barr stated, "We are pleased that Dr. Jeff Griffiths could join us today to discuss the SAB report." She also asked the members to keep these questions in mind as you hear his presentation.

Dr. Jeffery Griffiths thanked the Council for the opportunity to discuss the SAB report findings. The SAB was charged with 5 questions related to partial lead service line replacement:

1. Review literature on blood levels of lead and partial line replacements.

Dr. Griffiths stated that they identified only one paper that deals with childhood blood levels and partial lead service replacements. This paper looked at blood lead levels in children in Washington DC from the childhood lead poisoning prevention program and matched where children lived with information from the DC Water and Sewer Authority. The paper compared lead levels in two groups of kids, those living in households with and without service line replacements. Additional information was included about whether partial lead service line replacement leading to the household of that child.

The paper found a statistically significant relationship between the presence of lead service lines and children having higher blood lead levels. This relationship was strongest between November 2000 to June 2004 when chloramines were used for disinfection and corrosion control had not been optimized.

The paper also noted that a partial lead service line replacement was not associated with reduced lead levels in children. The period of time between the partial lead replacement and the lead test on the child on average was 10 to 11 months. They found a trend (not statistically significant) to higher levels of lead found in the children that may suggest higher exposures from partial lead service line replacement.

The group calculated what the likely mean blood level would be in an infant fed formula assuming the use of public water with lead levels cited in the paper. With water lead levels above 10 micrograms per liter, the number of children who would have blood lead levels above 5 micrograms per deciliter would be about 20%. At water lead levels way above the action level of say 30 micrograms per liter, an older infant taking in a 1.5 liter of formula per day would have a blood lead level above 5.

We concluded in our report that there is no benefit from partial line replacement. We found no evidence that supports the use of this as an effective or safe way to decrease the blood lead levels in children. There was a suggestion of harm in the trends toward higher blood lead levels in children. There were some design limitations of the study as well but the conclusion still stands.

2. <u>Review studies of tap water lead before and after a partial line replacement.</u>

We found quite of a number of studies available with very different sampling protocols, durations and locations that are listed in Appendix C of the report. One study that I have been using to discuss this was a study done about 20 years ago. Samples were drawn 10 days before the line replacement and then five to 16 days afterwards, or a week or two weeks afterwards, and then at two and four months later. Overall the weight of evidence suggests a consistent rise in lead levels in tap water after a partial line replacement, and the period of time for which this rise persisted varies in the studies between weeks and months.

Dr. Griffiths stated it was difficult to make any exact conclusions about what would happen at a particular site after a partial lead service line replacement. But, he stated that the weight of evidence is clear that there is a consistent rise in tap water lead. It lasts for at least weeks to months and where it will come down to at some equilibrium later on is unpredictable.

3. <u>What conclusions can be drawn about a partial line replacement vs. full line replacement?</u>

There were a very limited number of studies to review, and the follow up periods were often short. A full lead service line replacement often resulted in elevated tap water lead levels just like partial replacement, however, the weight of evidence supports that full lead service line replacement results in lower lead levels in tap water in the long run compared to a partial line

replacement. Also, evidence seems to support that optimizing corrosion control is an effective method for reducing tap water lead in the long run.

The panel also discussed the need for enhanced education. We recommended expanded education and much more vigorous education for people whose households having a partial or full service line replacement.

4. Is there a standard operating technique that can be developed for partial lead service replacements? For example, is there a way that one can gently remove a piece of lead pipe in such a way that it would dislodge as little lead as possible or in some way contribute to minimizing any spike in lead levels.

We found studies to be extremely limited and therefore it would be premature to make any recommendations.

5. The last question posed to SAB was related to galvanic corrosion and lead contributions. Corrosion occurs at the junction of copper pipe to lead pipe and at that place some of the lead will dissolve contributing to lead exposure.

We found evidence in the literature that substantial corrosion can occur and that the chance of liberating lead containing solids originally present in the corroded material is higher with the availability of free chlorine. However, we don't have much data on how often or at what dose the lead is mobilized during this corrosion. The issue with laboratory studies is they are done under artificial circumstances. We believe that, because there could be higher rates of corrosion after you replace a lead pipe with a copper pipe at the junction of the old lead and the new lead. Therefore, we recommended that a dielectric be inserted if there was going to be a partial line replacement but we couldn't quantify the exact benefit in terms of reduction. We thought it is likely to help and unlikely to harm.

Dr. Griffiths provided an overall summary of their report stating that they believe partial line lead service replacement can result in an elevation in drinking water lead that poses a risk to the population for a period of at least weeks to months. Because long term data does not exist, we were limited in stating scientifically how to ameliorate this issue such as identifying a mitigation strategy other than education and testing. Some members of the committee felt that the best mitigation strategy was to avoid partial lead service line replacement altogether.

Council Discussion:

Ms. Morales thanked Dr. Griffiths for his presentation and opened up the floor for council discussion.

Mr. Doug Owen: Was corrosion control good for mitigating lead in partial and full line replacement?

Dr. Griffiths: Most of the data around corrosion control was obtained from full line replacements; but there was some information both on partials and full but not very extensive

information. I would say the data is best for full line replacements, and in that circumstance, there was pretty good data supporting that corrosion control would blunt this rise.

Dr. Woolard: What aspects were evaluated to make the assessment that corrosion control was in place?

Dr. Griffiths: In the relatively scant number of reports that are out there, there was a variety of techniques used in the materials we reviewed, ones that we know are commonly used like ph adjustment, etc. We looked at whether corrosion control was in place or not in place. The report itself goes through the different studies that were looked at, and I would have to go through all the studies for specifics on corrosion control. What we took of it was, that corrosion control present at the time or not, of the measurements and the pattern that we are seeing was that when corrosion control was in place and described as being not half of the chance, but good corrosion control, then lower lead levels were seen.

Dr. Woolard: What I am hearing is that if a utility has corrosion control in place that helped improve the effectiveness of lead service line replacement.

Dr. Griffiths: Correct, in the long term we saw generally a lower lead level than had been present before the line replacement. There still is a spike that occurs through an elevation in lead that was usually seen but is mitigated. We don't know how high a spike in the absence of corrosion control. But the long term pattern was that in the long term, the leads were lower.

Mr. Max Zarate-Bermudez: Following up on corrosion control from issue 3, what does corrosion control mean regarding lower lead levels?

Dr. Griffiths: Let's say there was a household where tap water lead levels were say 10 micrograms per liter, after the full lead service line replacement had occurred and data was taken months to years later, then the tap water lead level tended to be lower. If the lead level had been fairly elevated, there was a pretty good pattern of it coming down to far more acceptable levels. There was a pattern of diminution. If you started with very low water lead level and you then looked a year after a lead service line replacement, levels did not go down dramatically; rather we didn't see a pattern of elevation in the long run. There was almost always a strong spike seen however.

Mr. Zarate-Bermudez: Was this achieved through full replacement instead of corrosion control or were both taken?

Dr. Griffiths: Some reported full line replacement in the absence of corrosion control and some reported with corrosion control. The pattern one saw was that corrosion control was associated with lower lead levels in the long run and at the height of the spike. Can you be site specific? The pattern was that corrosion control was a benefit.

Mr. Zarate-Bermudez: I think that the recommendation is that full replacement in the long run is good vs. partial replacement. There is only one study one year after. Is it safe to say that one year is good for people to wait after full line replacement or do we need to do more studies?

Dr. Griffiths: You need to do more studies and I think that everyone on the panel would be queasy about making a conclusion about the small number of studies. We were struggling with how to deal with studies that were done in different ways and often a real paucity of them. We can feel confident about the general pattern that was seen because it was so consistently the same but in terms of how long you have to wait, I don't know. It is probably very site dependent; it could be that there is solid lead from the corroded pipe that has moved into the household, maybe someone could flush out quickly? I don't know the answer to your question.

Ms. Morales: First question is, should the requirement for partial lead service replacement continue? I am going to turn it over to the Council, so please state your name before you provide the comments so we can start with the process.

Ms. Lisa Sparrow: I didn't hear anything at all that scientifically supports the continuation of it or that full replacement is better.

Dr. Woolard: I would agree.

Mr. Owen: I agree that it doesn't sound like there is any evidence that partial lead service line is a benefit. But, I didn't catch the piece about full line replacement.

Ms. Sparrow: Yes, I didn't hear any scientific data for that either.

Mr. Doug Owen: In following up to that and this is a question for clarification to Jeff. I thought I did hear you say that if there was a full lead service line replacement, that over time that water lead levels could decrease to below what they were originally before the full line replacement, and, if you had optimal corrosion control that seemed to help mitigate the temporary increase, that could be for weeks or months after full lead line service replacement. Is that correct or incorrect what I just said?

Dr. Griffiths: We thought that there was evidence over the long term that full lead service line replacement would very likely lead to lower lead levels and that the data overall would be the take away.

Ms. Sparrow – but we didn't know when that would happen, correct?

Dr. Griffiths: That is correct. If you replaced the full line, the weight of evidence was that at the end of the study period where they had examined it, tap water lead levels were then either the same or lower. Not the same or higher, but the same or lower.

Ms. Sparrow: Did they separate whether it was same or lower – was "same or more" one category?

Dr. Griffiths: I am saying, let's think of this simplistically - if they are higher, the same or lower. There was at least a suggestion in the data, if you started with fairly high lead levels and did a full line replacement, you would likely end up with lower lead levels afterwards. We did not see any pattern if you started with a low lead level and had a full line replacement, you ended

up with a higher level. Full line replacement led to benefit, frequently, and we didn't see much evidence, if any, that it led to higher lead levels.

Ms. Sparrow: Can you separate that into the short and long term on that because I thought I heard in the short term there was, long term there wasn't, and we didn't know when those inverted?

Dr. Griffiths: That is right, we don't, and this was very frustrating and so we are dealing with a real lack of information as to when that happens. As a scientist, I would want to do something where I got a lead level every week or something like that, and followed up with some long period of time. There were almost no studies like that. What people did is they looked beforehand and maybe right afterwards, then maybe weeks, then a couple of months later. Timing of when things got better differed and of course, each of these studies, each was a different system and they each had different things they were doing. No question that full line replacement was also associated with a spike in lead levels afterwards, and that it was with the long term years, when we saw a pattern of lower lead levels.

Mr. Zarate-Bermudez: Refers to page 14 of the report, and paraphrases third paragraph and interprets findings. Dr. Griffiths agrees with the interpretation that Max finds in the data.

Mr. Bob Vincent: I am concerned about question 1, about partial lead service line replacement continuing. And when I look at the report that Dr. Griffiths is describing, I focus in on this statistical validity and the limitations and caveats on this interpretation of this ground report. And I have to look at Page 6 and just reiterate in my mind and perhaps Dr. Griffiths would like to comment. You say there are number of design limitations that preclude reliance on this single study as the basis for final conclusions about the relationship between lead levels and partial line service lead replacements. And then you list eight of them.

Dr. Griffiths: We have caveats about the literature and the studies. Having said that, that is the study that is out there and while there are things that we believe could have improved the study, that is what the data shows. Let me give you an example, however, of one of the ways in which this limitation on the data might make you think that the study underestimated the risk. When the study is done, there sometimes would be a number of lead levels available for the child. In order to come up with a conservative estimate, if you read the paper, they used the lowest level, you could imagine a child with 5 or 6 samples done, which was done for a reason because of suspicion, and the conservative thing to do was to use the lowest level. The reasoning for this - if you did a finger prick test, it's possible that there was lead dust, and you need to clean the skin thoroughly. But if there was skin contamination, that would falsely elevate the lead levels that were seen. Maybe they did a good job cleaning kid's skin and no lead there, so taking the lowest level might not have been the most accurate or valid or potential lead measurement that could have been used. There was quite a bit of discussion about what the lead levels were closest to the time of the partial lead service line replacement. That was not done in the study, and that was a caveat. Having said that, this is one study, but the only study available, and that study did not show any benefit. There was no decrease in the kid's leads after partial replacement. Lots of

caveats, but we looked at it in brutal detail. The take is that it is not reassuring; it was exactly the opposite of that given the trend toward higher blood lead levels.

Mr. David Sadler: I have gone through the report and listened to the summary. I think it is fair to assume that there are some major issues with the partial service line replacement. There still are a lot of questions about full service line replacements. Long term affects may be beneficial, but it appears corrosion control is probably the most effective method; but then you get into some reasons, some of the different studies and questions posed of the problems you get into even with full service line replacements. When you look at the internal materials used in house plumbing, i.e., copper vs. other materials out there, I struggle other than a recommendation on partial service line replacements, with trying to come up with recommendations when there is so much ambiguity as far as what's out there to look at and try to come up with a determination on recommendations. It bothers me when you look at the overall effect and the associated cost and impacts on its own. That is my take on it now.

Ms. Jessica Godreau: Related to the LCR requirement on lead service line replacement under item A, talking about the two questions. It seems pretty clear from the studies of the partial service line replacements, at best there is no benefit, at worst determinant. It seems pretty clear to me that the lead and copper rule should not mandate partial lead service line replacement. As far as eliminating that in favor of full replacement, it seems clear that there is a little more evidence that there could be some benefit, but as we are talking about rule making, I have to also consider legal requirements and the applicability and the ability for systems to comply, and I would have difficulty supporting the recommendation that would require water utilities to mandate that they replace water lines that they do not own, operate, control in private ownership on private property. So I do not favor eliminating the partial lead service line replacement in favor of a requirement for full replacement.

Ms. Sparrow: Well said, I agree. I would add before I would be willing to support the "in favor" piece of it, I would want to see more data, and I also think there are other issues that people need to think about. Even if long term it works, we also know short term there is a rise, and that is something that needs to be looked at. As a homeowner and with one baby now and one baby on the way right now, I would flip if someone would change my line now. If they wanted to change it a few years from now after my child's brain isn't still like in major development mode, then that would be something else. But, I think there are so many factors that go into the timing of it; we need more data and we need to consider the wide ramifications of it.

Ms. Maria Kennedy: I have a comment**.** What about renters? Not everybody is a homeowner. What about people who are low income/minority – aren't they not afforded protections especially if there are still questions about the effect of lead on children's developing brains? The child of privilege isn't at a higher level than a low income/minority child. To just concentrate on homeowners is not being fair.

Ms. Sparrow: I agree. I said homeowner because I am a homeowner. It's anybody living in the house. And, I actually think that renters can be lower or higher income. A renter is even in a worse case because I really don't see the landlord coordinating, or knowing or caring about who the tenant is, so I think it gets further complicated.

Ms. Kennedy: There are regulations; the landlord at least has an onus to do that.

Ms. Barr: To clarify, even in our current regulations, they typically hang something on the door, so it is not just that it would go to a homeowner and not a renter, it would go to the person living in the house by hanging it on the door.

Ms. Sparrow: We are talking about making changes to people, that maybe long term, the person in that home gets the benefit of it; but, in the short term, it's health damaging to them. My point is that it's far more complicated than this conference call, and I don't think there is enough here to be able to vote in favor of it. Other things need to be considered if you are talking about recommending a full replacement.

Ms. Barr: Even in our current regulation, it is required that they go door to door. So it's not just that it would go to a homeowner and not to a renter, it would go to the person living in the house.

Dr. Griffiths: Maybe I was unclear. The reason I went through the business about there being a table in the report is that based on the data we saw, we found clear evidence that these spikes could result in permanent harm to an infant. One of the things is that you can be chronically exposed to lead and have chronic problems. Or, you could have short term exposure. But some of the levels that had been reported and the duration of persistence, if there was a child who was on formula at that time, then it was quite clear that there was a portion of those children who would end up with permanent harm. Not something that was transient or something like that. I don't want to underplay that. I want to make that quite clear. I would also like to make it clear that during the deliberations on the report, the full SAB reviewed it. A number of people found this information - the best word I can use is "alarming."

Mr. Vincent: Could I ask a question of Pam or Cynthia? Can you do a moratorium or suspension of the partial lead service line replacement - in waiting for additional research and studies for two or three years?

Ms. Sparrow: That's a good question, because I think it's frightening.

Ms. Barr: What we would typically use in this case is enforcement discretion to move quickly. I have someone from the Office of Enforcement and Compliance Assistance (OECA) here if you want to know more. To revise the rule would take multiple years.

Mr. Vincent: That was my concern; because you couldn't get it written in the rule quickly, and so a moratorium of an enforcement action or directives for enforcement actions would be the way to go. That might not manage the ones though that are done voluntarily that you wanted to

talk about later and that might be a directive as well. But it does sound, obviously, that the partial line replacement is not a good idea at this time.

Ms. Barr: To clarify, on the ones not covered under the rule, there is not anything we can do unless we do a rule. For the voluntary infrastructure replacements, we can issue guidance, we can issue recommendations; but in order to take an enforcement action, it must be based on regulation.

Ms. Sparrow: But you can come out with a statement that says you have enforcement discretion and do not intend to enforce.

Ms. Barr: If the water system were not in compliance ,they would be consulting with the state primacy agency

Ms. Sparrow: I am more concerned if they are in compliance, and they are moving along and doing stuff so they are not in touch with anyone.

Ms. Hope Taylor: I would agree with that. I think this requires a more active level of notification than simply a decision not to enforce in order to deal with these voluntary situations.

Mr. Vincent: To the question about in favor of full replacement; at full replacement is complicated, and where it's possible, certainly that is a good idea but the not utility owned barrier is always going to be the issue. I like the thought of appendix C, was hook lining and type coating and I don't know what the regulatory and practical aspects of that are but that was mentioned in appendix C as a potential. I think that ought to be explored and encouraged where it can be done.

Ms. Morales: Thank you Bob. Anyone else?

Ms. Sparrow: Are you talking just on the mandatory replacement under the lead and copper rule at this time, correct?

Ms. Morales: We are still under "A" as far as I am concerned. Are we ready to make a recommendation? Do we want to make a recommendation?

Mr. Vincent: And that talks about other methods of protecting the water from lead and one is by coating the interior of the pipe with a chemical additive or plastic liner and then slip lining is the same thing. They are not easy to do for these small diameter pipes, and it implies in appendix E there were some regulatory barriers as well, but I don't know what those are.

Ms. Morales: Jeff, do you have anything to offer now?

Dr. Griffiths: It's an attractive concept and the amount of data out there, where someone has actually tried it, is almost negligible. So it's an interesting concept, and if you wanted data to show that it actually worked, it's not really there.

Dr. Woolard: And I think that's just because it's the small diameter pipes. It's happening all over for sewer pipes, two inches and above, lead service lines are typically half inch in diameter.

Dr. Woolard: Where I am struggling with, I agree, seems like it's an approach and technology with potential; but at this point, we are talking about requirements of the rule. And it seems to me from the discussion, the data suggests that requiring partial service line replacement is not a good idea. The data also suggests that substituting full lead service line replacement for partial lead service line replacement is also not a good idea at this point, and it doesn't seem to me that there is enough information out there to require some alternative technology.

Mr. Vincent: Well, I am not suggesting requiring, but incentivize it if it is possible and technologically feasible and practically feasible; because we are going to see lead as an issue for many more years, and if we are getting rid of one of the replacement options, then there ought to be options out there for individuals and utilities that want to try those things that might work.

Dr. Woolard: And I agree 100%. I want to be clear on the requirements part, I think it has a lot of potential. Requiring it was where my hang up was.

Ms. Sparrow: I agree. Are we ready for a motion?

Ms. Morales: I think we are.

Ms. Marcia St. Martin: Olga, before we take a motion, can we hear the EPA's thoughts on compliance and rule compliance, and, if there was a change, how would utilities report compliance? My question is, if the rules would be suspended or allow for utilities that are compliant to move away from partial line replacement, how would that be communicated and how would a utility report continuous compliance.

Mr. Eric Burneson: In the context of the rule revision which is what we are really seeking, the agency currently has a requirement that when a system exceeds the action level, if the system has lead service lines in their inventory, they must undertake a program in which they replace 7% of lead service lines a year. The replacement requirement specifies that they need to contact the homeowners in advance and offer to replace the entire line but for the portion that the homeowner owns, the cost of that is the homeowner's expense. They are not required to pay for it. If the customer does not accept that option, the utility must still pursue and complete a replacement of the portion that the utility owns. If the agency were to modify this requirement, the requirements would not compel the utility to replace the line in the case where the homeowner refuses or is unable to pay for the portion of the line, and the utility would then be obliged to basically identify as many of the lines that they could replace as are possible. Other potential options associated with this would be the current mitigation measures that are in place right now as Pam has alluded to. They have to identify them, give the information to the occupants of the home in advance, advise them of the potential increase in the short term and then give them advice about taking actions such as flushing their lines following the replacement for a period of time, and then follow up with sampling within 72 hours of replacement and give them the copies of the results. There could be other mitigating requirements that could be put in

place that would address these short term spikes, more specific and better flushing recommendations to occupants of households; other measures such as filters, or other measures that could reduce initial return of elevated levels of lead. Those would be the types of mitigating measures that could come into play here. Of course the degree to which systems are going to be able to achieve full lead service line replacement or getting acceptance is going to revolve around the ability or the willingness of the occupants of the households to pay for that replacement and/or the degree to which control is defined. I want to pause here and see if folks understand the concept here. We are talking about changing those regulatory revisions. In this interim measure, for utilities that are in that situation, the state primacy agency, or the agency with direct oversight, could exercise discretion in how they choose to enforce or compel systems to undertake partial service line replacements or the lead service line program as a whole. That would be the enforcement discretion provision that we are talking about here, an aspect of the report I want to make sure folks were aware of. I realize the concerns about elevated levels of lead following partial and full, but the report does describe on page 11, the next paragraph to the bottom, the situation of spikes occurring even in intact lines that remain untouched, particularly in situations where there is lead scale buildup. I wanted to see if Dr. Griffiths had any comments on that particular phenomenon. I want to make sure that folks know that even with untouched lines, there is this potential for spikes.

Dr. Griffiths: Yes, that is quite clear. If you are drinking water that has been sitting, stagnating, next to a lead pipe, there is pretty good evidence that you are going to get water with an elevated lead level. I know of information that has arisen since this report was finalized, which would strongly corroborate that statement. No one should be under any illusion that lead spikes don't occur even without a replacement.

Ms. Morales: Any other questions? Do we have enough information to make a motion?

Ms. Godreau: I make a motion to recommend that EPA should not require either partial or full service line replacement under the revised lead and copper rule, and in addition, should issue guidance on the possible negative health impacts related to compliance with the current lead and copper rule and their intent to suspend enforcement.

Ms. Sparrow: I second.

Ms. Morales: Do I have any discussion from the Council?

Mr. Vincent: Did you include full replacement in there?

Ms. Godreau: Yes I did include the full replacement.

Mr. Vincent: I heard you say that but why?

Ms. Godreau: As I was saying before, I think it is very difficult to mandate a water system to go onto private property and deal with private infrastructure and to mandate that. And I put that together with some of the initial elevated levels, and it doesn't seem worth mandating it to me.

Ms. Sparrow: I would add that we still don't know where that break is, when does it get better? And we also know that in the interim that it actually causes permanent damage. So not knowing when it gets better combined with we do know that it actually causes permanent damage, I can't see any reason to support it.

Ms. Godreau: But it's mainly, don't think you can mandate a water system to take action on private property with somebody else's infrastructure.

Ms. Sparrow: I totally agree with that as well.

Ms. Morales: Are there any further discussions from the Council?

Mr. Sadler: "I call for the question" means that the discussion stops and we vote?

Ms. Morales: I have to go through roll call because I can't see hands to see who is in favor of Jessica's motion:

- **Ms. Massey:** In favor of Jessica's motion.
- **Ms. Kennedy:** I am opposed to Jessica's motion.
- **Mr. Saddler:** In favor.
- **Ms. St. Martin:** In favor.
- **Dr. Woolard:** In favor.
- **Mr. Owen:** In favor
- **Ms. Taylor:** I'm in favor, but only if there is aggressive work by the Council in the future to work on migration strategies while we are getting more information on this.
- **Mr. Vincent:** Not in favor of it because I think full service line replacement is a viable alternative in many situations.
- **Ms. Sparrow:** I'm in favor.
- **Dr. June Weintraub.** Abstain, because I joined the call late and missed a lot of the discussion.
- **Ms. Godreau**: In favor.

Ms. Morales: Does this capture both A1 and 2 issues or do we need to have our discussion on 2?

Ms. Godreau: In my opinion, it addresses 1 and 2.

Ms. Morales: Alright moving on to B, if there are no further discussions, can we move on to B?

Mr. Zarate-Bermudez: I have a question. There was a motion by Hope and Bob that had some confidence. Hope said, in favor, only if the council is aggressive in mitigation strategies, and Bob, not in favor, because he thinks that full replacement is a viable alternative. How are those opinions reflected in whatever the Council will record with regards to this motion?

Ms. Morales: They will be reflected; in the case of both we can say the fact that Bob sees the value of full service replacement and the same goes for Hope. Even though most of the Council

voted in favor of, it's valid to state the fact that there are some reservations, and we can make some comments in regard to that. When we have the opportunity to review the recommendations that are drafted and put together, we make sure those comments are captured.

Mr. Zarate-Bermudez: thanks.

Ms. Morales: Are we ready to move onto B? We have just over ½ hour, so we probably need to move a little faster on this one.

(Olga reads B below to the Council)

B) Voluntary/infrastructure partial LSL replacement that is not currently subject to LCR Requirements:

1) Should there be notification and sampling requirements for these instances?
2) How would these requirements be imposed and enforced when the systems are in compliance with the Rule?

Mr. Vincent: Question to utilities. Do you know where all your service lines are?

Ms. Sparrow: The short answer is no. We can't say, with any conclusion, what is on the customer side. But in terms what ties in with our main – you know, we have decent ideas about, you certainly know when you are digging it up to replace it, and you have ideas that were more likely than others, but do you know every single house to say this house is bad, no we don't have that, but you certainly know when you are digging it up.

Ms. Barr: That is what we have generally heard around the country, but there is not a real good inventory of lead service lines. Partly if you think about it, these were put in the ground decades ago.

Mr. Vincent: And is it true that certain housing age stock is more prone to them?

Ms. Barr: Yes

Mr. Burneson: There was a period of time when that was the material of choice, those homes constructed in that era are going to be prone to having these lines. I think it is rare that a utility knows and has an exact inventory of every service line in particular.

Mr. Burneson: The era varies, city to city, when lead was the material of choice. There are some very distinct timeframes in different metropolitan areas. Another observation nationally is that the Northeast, the Midwest and to some extent, the Southeast are probably places where lead service lines predominate. This does not seem to be an issue in the Western U.S. by virtue of when those cities developed; and, I can say that while there is a materials inventory associated prior to the rule, the rule was designed really to help systems where they would have to sample. It was not intended to be a completed inventory of all those service lines and even that estimation isn't reported to the agency at this point. So we don't have a national means for knowing where those service lines are located.

Ms. Morales: Thank you Eric. Council members?

Dr. Woolard: It seems clear to me that there should be some notification to homeowners when the service line is being disrupted for any reason based on what we have learned. But there should be some notification, certainly some notification requirements. I'm still unclear about sampling requirements. The sampling requirements we should discuss is what is the best approach there? But certainly there should be some notification requirements if you are disrupting lead service lines for any reason.

Ms. Morales: I totally agree. It sounds like any disruption for whatever reason is going to hemorrhage.

Ms. Taylor: I would agree. I thought I was picking up that there could be disruption in lead spikes even when it was not clear a lead service line was the only thing being replaced. Do we have evidence for any replacements that very seldom cause lead spikes?

Ms. Morales: Hope, are you talking about for example if they replace a main attached to a lead service line?

Ms. Taylor: Yes, something that was adjacent to a lead service line but not the line itself.

Dr. Woolard: So many variables that get involved in spikes; that is a real open ended discussion. You can get dynamic changes in your system, pressure increases or changes in directions and all of that impacts spikes in your water quality data. I suppose it's a discussion that could be ongoing for a long time.

Ms. Taylor: But I guess that was said in the sense of precautionary view of not only notification for replacements but of at least some level of testing as well.

Dr. Woolard: Just to clarify my position on it, my thought was that if you touch that service line, then there should be some notification requirement. I would agree that changes in pressure or flow in the main, those kinds of things I guess theoretically have a potential to impact service lines, but the practical reality includes those that are unmanageable. But I do think if you are digging it up, and you are touching the service line, you have a high potential of disrupting that lead film and causing a spike, and there should be some notification requirements.

Mr. Vincent: I agree. There is no question that there is going to be a lead release so let's make sure there is notification.

Ms. Kennedy: I agree with that and that also goes along the lines of the respect for private property, because if you are going to be affecting my private property then the onus should be on you notifying me. I don't think there is an inconsistency in that logic.

Dr. Weintraub: I agree with the notification. I have a question. When a lead service line is being replaced that leads to a particular property, is there an opportunity for adjacent properties

to also experience an elevated lead that we have seen in the partial service line replacements on the current property, and or, do we not know that?

Mr. Burneson: I am not aware of studies where partial lead service line replacement has affected adjacent properties. I think the situation you are worried about is sort of a backflow situation where water would be drawn out of the surface line back into the main and then into adjacent properties in which case, I am not aware of such studies that have examined that. I don't know if Dr. Griffiths has seen any of that in literature that he has looked at.

Ms. Morales: The concern and question that June had has to do with the change in pressure and if that impacts the site to adjacent properties even those that are in the isolated area where repairs are being made.

Dr. Weintraub: You have interpreted correctly. I think this could happen if there is backflow or just a change in the way the water moves through the pipe. I suppose it would have to be moving backwards in order to cause a problem on the adjacent property once you reconnected; and so I guess it probably depends on the configuration. It sounds like a question for another day. Where I was going with this, who are we notifying with this? A related question would be when a partial service line replacement happens, do they tend to happen one at a time, or often a whole block's worth of work that is going on? So naturally an entire neighborhood would be informed by a notification requirement.

Ms. Morales: I think there is a possibility for both June; you have the possibility to just do, if a utility has the funding to do infrastructure replacement and they are doing a project, a planned out project and they will impact multiple households. And then there is the one where there is a leak or there is an emergency, so it's different.

Mr. Vincent: I have spoken to utilities saying that they are more often replacing mains in older neighborhoods, and the older neighborhoods have the lead lines; so, they do them quite often in block by block and section by section areas.

Ms. Morales: So, I think that the Council is in agreement that the notification needs to happen. What I am hearing from all of you is that the households/occupants should be notified regardless. The next question is the sampling requirement. I think there will be a lot more discussion from now on because it's kind of unknown at this point? Are we ready to do that portion of the question?

Ms. Godreau: I think that it actually might be worthwhile separating those two issues and motions.

Mr. Owen: I agree with that.

Ms. Morales: Can someone make the motion?

Dr. Woolard: I started the discussion, so I will make the motion; and I do think it's a good idea to separate the two. I will make a motion that there are requirements in the revised rule to notify the homeowner if a lead service line is touched by the utility for any reason.

Ms. Kennedy: I second that.

Mr. Vincent: I vote yes.

Ms. Barr: This is EPA. Could someone clarify "touched" for us please?

Dr. Woolard: Yes, when it came out of my mouth I realized that is probably not a great word. Maybe a better way to characterize it is if the utility does a repair on a lead service line for any reason, that the homeowner is notified. "Repair" or "connection to" are good words as well. The point at which you have a repair, or are replacing that service line so there is a potential for disruption, wherefore, the homeowner; there should be notification requirements in the rule.

Ms. Morales: The motion has been slightly modified but basically is to require notification whether for repair or a connection to a service line. Right?

Dr. Woolard: Correct.

Ms. Morales: So Bob, do you want to change your vote?

Mr. Bob Vincent: No, not at all. As David did last time, we could go ahead and call this question and vote on it, I suppose.

Ms. Morales: So let's vote on it.

- **Ms. Kennedy:** Yes
- **Ms. Massey:** Yes
- **Ms. Godreau:** Yes
- **Mr. Owen:** I am in favor
- **Mr. Saddler:** Yes
- **Ms. St. Martin:** Yes
- **Dr. Weintraub:** In favor
- **Ms. Taylor:** Yes
- **Ms. Sparrow:** In favor
- **Ms. Morales:** Yes.

Ms. Morales: So we are basically cutting that question into two questions or two motions. We have a motion, so let's go back to the second half of that question, "sampling requirements for these instances?"

Mr. Vincent: Did EPA have some sampling suggestions that might be helpful?

Mr. Burneson: So, currently there is sampling required 72 hours following the replacement and then notification going to the homeowners and that is, of course, in the situation where the lead service line replacement is subject to the rule. So one potential would be a single requirement, as it exists right now—where the utility is mandated to take lead service line replacement—and be applied to these situations where the utility is doing it for infrastructure and maintenance reasons. Obviously, the Council may want to discuss other more frequent or longer-term sampling requirements associated with that, but right now there is a requirement, 72 hours with notice going to the customers.

Dr. Woolard: Those 72 hours samples, that information gets relayed back to the homeowner?

Mr. Burneson: That's correct.

Dr. Woolard: The 72 hours sample then goes into the calculation of compliance for the utility?

Mr. Burneson: It does not. It's what is referred to as a lead service line sample, so the customer is instructed to flush the line to the point where it is representative of the water that has been in the service line. And, as you may or may not recall, the treatment technique is confined to that first flush sample. Those are two different episodes.

Dr. Woolard: So it's fair to say that the sampling requirement right now is simply to just help the homeowner be aware of the issue that there could be elevated lead levels in their tap water because of the service line destruction.

Mr. Burneson: That is correct. It's intended to reinforce the initial message they got regarding the potential for short term increases following the replacement. This is designed to give them the sense of the magnitude of that increase that they may be experiencing to further motivate them to take action.

Dr. Woolard: Do we have data to suggest just how effective it has been - how many people are actually doing the sample? It's an education component of the current rule. My question is - is it working? I think we are in agreement that we need to do some notification. My basic question is requiring that 72 hours sample, is really trying to make sure that the homeowner is aware and is that technique working or do we need to look at something else?

Mr. Burneson: I don't believe we have data that tells us whether or not the sampling results have been effective and motivating to customers. We have heard anecdotally that systems have tremendous difficulty getting access or getting those samples to be collected especially in that 72-hour timeframe.

Dr. Woolard: Assist with the homeowner knowing whether they needed to continue to flush. I know some really tell people to flush for 2 or 3 minutes, so testing after the service line replacement, if it were still positive for lead, they would know that they still needed to flush - kind of a rhetorical question, I guess.

Ms. Godreau: I have a clarification for either Pam or Eric. In terms of current regulatory framework, there is no requirement regarding notification or a sampling for these voluntary partial replacements. Is that correct?

Ms. Barr: Yes.

Ms. Godreau: So that moving to requiring this notification is a big step forward in terms of improving public health protection.

Ms. Barr: I think there are a number of people who would say so, yes. If you listen to what Dr. Griffiths was telling us earlier, and this is the majority of the replacements from what we believe.

Ms. Morales: We have about 5 minutes and we need to wrap up our discussion.

Ms. Godreau: What was the use of that sampling data? Not used in a compliance calculation, it would be purely provided for information to the customer. I am wondering what it is that customer would be doing with that information. What is the expectation of the use? I guess like getting a new filter or something like that. To me it seems like getting that information out there is a step forward and is probably far enough at this point without any clear purpose for how that data would be used moving forward and what the implications would be.

Mr. Owen: I am struggling to think about this based on what I heard from Dr. Griffiths. - What a sampling protocol would be developed that we could conclude would be informative and helpful overall because sometimes these spikes last for a little while, sometimes longer, and while certainly follow-up sampling may have value, trying to prescribe it could be potentially misleading at worse and maybe would give us some information at best. So the sampling thing does kind of open up a different can of worms in my world, beyond just trying to think about sampling is a good idea. If you do that, then the next question is what do you want us to do about it, and I'm not sure that the data are informative enough to help me form an opinion on that.

Dr. Weintraub: Following on that, I think that no matter what, any lead service line replacement is going to need to be accompanied by this notification that this is happening. I presume that would include some sort of recommendation that the homeowner consider doing replacement on their property and then recommendations for how to mitigate any potential water quality problems that could happen if they choose not to. And I think that we want utilities to give that guidance regardless. Given that we know if they did sampling, it would be likely to show that there is a problem and they just need to follow guidance to mitigate problems if they are not able to do the replacement on their property. I just think any sampling strategy that's compelled for the utilities is just going to open up too many unknowns as far as how to help the homeowners interpret it and how to interface with the resources to help them understand what the risks are. There just needs to be clear guidance about what the potential risks are, how everybody who chooses to not do the full replacement, needs to try to manage the potential risks associated with that choice. I don't think that the sampling is going to be helpful, and that's not necessary.

Ms. Morales: Is the Council ready to make a motion on that?

Ms. Taylor: I want to get further clarification. I think a lot of what we have been talking about today is the lack of comprehensive science to make decisions about service line replacement among other things. While I understand that there would be some significant burden on utilities for interpretation, I wonder if there isn't some very simple protocol that would in fact lead to a lot more information in the future for making better decisions.

Mr. Vincent: And I would agree. I think that all the data that is collected, that is held by the utility could be used for other studies. We have discussed these studies this morning that use old compliance data to compare with blood lead levels and water hammer and all the other things that occur in systems. I see it as an information collection rule - it certainly is going to be useful at some point in the future if it's not useful to the individuals at the moment. It seems to me that education component could be enhanced by testing and sampling. So I would be in favor of it, but I don't know how to implement it.

Dr. Woolard: My opinion is, it's the requirement again. The requirement having the homeowner take a sample 72 hours after their service line has been repaired or replaced is where I have concern. I think our utilities' efforts are better spent doing better public notification, probably going to be more protective of the public health to make sure that the homeowner is appropriately notified, and those materials are as good as possible, and the guidance is as good as possible. I am not sure that it's a good use of everyone's time and money and resources to require that sampling. However, I would say that enhanced monitoring of some form as part of an effort to improve the overall corrosion control program that does make some sense. I just question the validity and usefulness of that required sample. It's very difficult to get that homeowner in many cases to participate; I believe that is the case. So what utility are we getting out of that data? It would be better if we need more data; to collect more data in a more systematic way. I think the data that comes out of those questions at least those 72 hours samples might be suspect or I mean anecdotal evidence anyway suggests that it is difficult to get the sample. So, I don't know that it is a good use of our time and money.

Ms. Taylor: I understand the point of view about cost effectiveness for the education and the behavior change recommendations that come in the early stages. I was actually thinking of some of the time periods later and would agree with you that maybe just expecting compliance from the homeowners is not the best approach, but an enhanced random sampling in the appropriate areas would be the best way to track, but at a later time.

Ms. Morales: Are we ready to make a motion?

Dr. Woolard: I will make a motion that we do not recommend that EPA require homeowners sampling in a 72-hour period after a lead service line has been replaced.

Ms. Morales: I am not going to take a roll call - I am just going to have those that are not in favor of the motion.

Mr. Vincent: Clarification. Is the 72 hours the key concern; aren't you just talking about any sampling?

Dr. Woolard: I'm referring to the current requirements for homeowner sampling after the lead service line replacement. My understanding is that is the issue on the table.

Mr. Burneson: While we cited the existing 72-hour format, we were posing the question more generally to the Council. We will take the advice about just the 72 hours but don't feel constrained to only giving advice about the 72 hours timeframe.

Ms. Morales: Can you make the motion to be more broad than the 72 hours?

Dr. Woolard: Sure. I will change my motion to this. Our recommendation is to not have sampling requirements after lead service line replacements.

Ms. Godreau: I will second it.

Ms. Morales: If you are not in favor of it, please state your name.

Ms. Taylor: Once again, I would agree with that provided that Council looks aggressively at requirements for enhanced monitoring at some later time period TBD.

Mr. Vincent: I would agree with that and add to that instructions provided in the notification could offer the homeowner optional sampling and how to do that and what they might want to do privately on their own vs. what the utility would be mandated to do. I agree, that the utility does not need to be mandated to do it

Ms Taylor: But those are not amended to the motion but comments?

Ms. Morales: Those are comments, or would you want to amend the motion Craig?

Dr. Woolard: Comments is what Eric is looking for. I am in favor of those comments and should be reflected in the record. I think those are excellent comments.

Mr. Owen: Olga, I'm confused. I'm trying to think about the fact that we are doing lead service line. I agree with the motion. We shouldn't have to have any specific follow-up monitoring, and there is an education element for the homeowner. The outcome of that, just for clarification, there is no other special monitoring associated with this, right, beyond what a utility is required to do. Is that correct?

Ms. Morales: Correct. They would basically fall into the regular lead and copper schedule.

Mr. Vincent: I have to vote no. I have to think about this a little bit more since we are going in and doing something on that site and is there any value to additional monitoring beyond just the routine? I am not in favor of what is currently in the rule, but I am not sure if it needs some kind of attention or maybe that is just a recommendation thing. Anyways, I guess I got to leave at that for now.

Ms. Morales: Thank you Bob. Anyone else?

Dr. Weintraub: My only comment is that moving back to what my original point was about the notification. We weren't really specific about what that notification included, so I feel confident in voting in favor of no monitoring but only accompanied by assurance that any notification would include a careful communication about potential risk and how homeowners can mitigate that.

Ms. Morales: We have all of the "no's" and that means the motion carries.

Mr. Vincent: Is there a lead contamination control act that removed all the lead line water fountains, have ability here to require the notification when you tamper with or remove the lead service line? I don't know.

Mr. Burneson: I don't think that the applicability of the LCCA falls in this situation. It's focused on schools, and we are talking about the situation of infrastructure, generically about any lead service line replacement that takes place as a result of infrastructure maintenance/repairs or any other things that are going on that requires utilities to replace/repair lead service lines. We are asking for focus on some more specific guidance/recommendation as to how and when those notification requirements should be imposed and what enforcement oversight should come into play on these sorts of things.

Mr. Burneson: Let me be more precise. In light of recommendation to the council regarding notification, we could use some more advice about the timing when that notice should go forward and contents of the notice. How could we ensure compliance that the system has taken the notification action?

Dr. Weintraub: Some notification should be for required or voluntary compliance. Notification would include what is happening, what actions they should take and risks if they don't and mitigation options including monitoring, at their expense. Suggestions would be to flush for whatever amount of time we have determined is necessary to gain fresh water from the main line. Three key parts for notification: recommendation for homeowners, risks if they don't, and mitigation techniques.

Ms. Godreau: Is there already some information that is provided to home owners under the current regulations as partial service line replacements are given out, and so, what does that include?

Ms Barr: Homeowners only get information if it's a replacement under the rule.

Mr. Burneson: Yes so that part of the notification that takes place, I believe 45 days in advance for the replacement to have to notify that residence that partial lead service line replacement was taking place and that's the time they have to offer to replace the customer's portion at the customer's cost. There is also information and the rule isn't very specific but there is information about advising customers that they will experience elevated levels of lead and

providing recommendations about the actions the customers can take to reduce their exposure to those elevated levels of lead.

Dr. Woolard: I would agree. I think that's the core difference in that it wouldn't routinely be a planned event, so the timeframe is going to have to be adjusted. So what's in place now, but you know the reasons for the actions, the potential risks and the potential mitigations options are really what the notice should contain. I suggest sending written suggestion with no further debate on motion. Our discussion is around details of notification vs. concept of notification.

Ms. Morales: All right. So, with that I think as follow-up, we have enough information from our discussions to draft our recommendations that include suggestions for details surrounding notifications. With that I am going to stop our deliberations at this point and turn it over to Sue**.**

Ms. Kelly: It is very important that the deliberations of the Council be open and transparent and that members of the public have an opportunity to make statements during these meetings. To this end, the Agency published a federal register notice on October 31 asking for persons to register if they wish to make an oral statement during the meeting and/or submit their written statement by the deadline of November 16. We did not receive any requests or statements by the deadline. If anyone on the line would like to provide a statement for incorporation into the meeting minutes and made part of the public record, you must do so in writing via e-mail to my attention.

Ms. Kelly adjourned the meeting.

Respectfully Submitted:
/Signed/

_____

Suzanne Kelly
DFO

Certified as accurate:
/Signed/

_____

Olga Morales
Chair, National Drinking Water Advisory Council