ALASKA WATER AND SEWER CHALLENGE
ALASKA DEPARTMENT OF ENVIRONEMNTAL CONSERVATION

PRE-PROPOSAL CONFERENCE

September 17, 2013

Anchorage, Alaska

Present:

Chris Allard
Tim Allen
David Arehart
Kilby Baron
Clement Cid (telephonic)
Dave Coolidge
David Cooper
Ryan Cornutt (telephonic)
Victor D'Amato (telephonic)
Jennifer Dobson (telephonic)
Aaron Dotson
Alf Durnie (telephonic)
Paul Gabbert
Bill Griffith
Anastasia Hanan (telephonic)
Tim Hoffman
Kate Johnson
Cindee Karns (telephonic)
Jonathan Kamler (telephonic)
Jannette Keiser
Sean Lee
Brian Lefferts (telephonic)
Sonja Love-Hestnes
Justin Marcum
Molly Mylius
Chase Nelson
Deborah Pock
Caitlin Rodriguez

Art Ronimus
Simone Sebalo (telephonic)
Jacqueline Shirley
Mark Spafford
Tracy Svanda
Tim Thomas
Bob Tsigonis
Tom Varney
David Wilson
Bob White (telephonic)
Bob Wright

P R O C E E D I N G S

(On record at 9:01 a.m.)

MS. LOVE-HESTNES: Good morning everyone, and welcome. We're going to go ahead and get started. Thank you for your interest in the Alaska Water and Sewer Challenge. My name is Sonja Love-Hestnes, I am the procurement officer for the RFP. Please, as courtesy, turn off your cell phones or mute. For those folks who are on the line, please do not put your call on hold. A few housekeeping issues, the facilities are right outside the doors. If there is a fire alarm, we will exit and try to reconvene afterwards or reschedule. If there is phone issue, we will continue on with the meeting. To introduce the folks at the front table, we have Tim Hoffman, Bill Griffith, Deb Pock, transcriber is Natalia -- Natalie, excuse me, and our tech folks, Kevin in the back. We'll try to have a brief break somewhere around the 10:30, 11 o'clock hour. If you need to, come and go as you need. This is a public meeting and will be transcribed and posted online along with the finalized questions that are compiled today and today's discussion. We anticipate to answer some of the questions today, some we will not be able to answer probably without further research. If you leave today with a question unanswered, please email me no later than close of business tomorrow, September 18th. All questions and answers and the transcription will be available online as soon as possible, estimate seven to ten days.

If you're registered with the -- with me, for the RFP, I'll provide that notification as soon as available. Just for clarification, the Alaska On-Line Public Notice is on the procurement information site. If you haven't registered for the RFP, there is an attachment. Please register and I will notify you of any amendments or addendums.

The Division of Water has a couple of hyperlinks that are on the body of notice. One is the survey monkey, this is to provide your information to others who want to join a team. There's also the survey monkey spreadsheet, which is updated weekly that provides that information. There is also a hyperlink for email notifications for updates on the project. These are not any way related to the RFP as far as registration.

Okay, now we need to do a role call, starting within the room please, and we'll just go around. If you just State your name, speak loudly, and your organization or team.

MR. BARON: All right. Tilby Baron, Cowater Alaska.

MR. ALLEN: Tim Allen, Cowater Alaska.

MR. LEE: Sean Lee, VSW.

MR. AREHART: Dave Arehart, DEC Engineering.

MR. GABBERT: Paul Gabbert, an Independent (Indiscernible - away from microphone).

MR. RONIMUS: Art Ronimus, I'm retired (Indiscernible - away from microphone).

MS. MYLIUS: Molly Mylius, Agnew Beck.

MS. SHIRLEY: I'm Jacqueline Shirley, Zender Environmental.

MR. SPAFFORD: Mark Spafford with the Denali Commission.

MR. MARCUM: Justin Marcum, HDR Engineering.

MR. COOLIDGE: Dave Coolidge, Larsen Consulting Group.

MR. WRIGHT: Bob Wright, Larsen Consulting Group.

MR. WILSON: Dave Wilson, Oceanic Environmental.

MR. Thomas: Tim Thomas, Division of Community Health Services, ANTHC.

MS. KEISER: Jan Keiser, ILF Consultants, Inc.

MR. COOPER: David Cooper, Summit Consulting Services.

MR. ALLARD: Chris Allard, Summit Consulting.

MS. JOHNSON: Kate Johnson. I'm with ERM.

MR. NELSON: Chase Nelson with DOWL HKM.

MR. TSIGONIS: Bob Tsigonis, Lifewater Engineering Company.

MR. VARNEY: Tom Varney, Anchorage Tank.

MS. LOVE-HESTNES: Thank you, for those on the line, we'll start with those that are within Alaska per region. Northern region? Western region? Southern region? Interior?

UNIDENTIFIED FEMALE: (Indiscernible - telephonic speech).

MS. LOVE-HESTNES: Can you speak up please?

MR. LEFFERTS: I'll start. This is Brian Lefferts, with Yukon-Kuskokwim Health Corporation. Also we have here Jennifer Dobson and Bob White. I didn't speak up fast enough then you

went through our region.

MR. KAMLER: Jonathan Kamler, with the University of Alaska Fairbanks, but I'm physically located in Juneau.

MS. LOVE-HESTNES: Anyone from Southeast region?

UNIDENTIFIED MALE: I didn't catch that.

MS. LOVE-HESTNES: Southeast.

UNIDENTIFIED MALE: (Indiscernible - telephonic speech) with EPA Anchorage.

MS. LOVE-HESTNES: Southeast region?

MS. SEBALO: Simone Sebalo, Zender Environmental.

MS. LOVE-HESTNES: South-central Anchorage? Has everyone listed their name and firm? Anyone else outside of the U.S.? Okay. Anyone within the Continental U.S.? We'll start with regions. Northern region? Northeast, excuse me. Southeast?

MR. D'AMATO: Vic D'Amato, Tetra Tech (ph).

MS. LOVE-HESTNES: Southwest?

MR. CORNUTT: Ryan Cornutt, Orenco Systems, Oregon.

MR. CID: Clement Cid, California Institute.....

MS. HANAN: (Indiscernible - telephonic speech).

MR. CID: .....of Technology.

MS. HANAN: Sorry, Anastasia Hanan with (Indiscernible - telephonic speech).

MS. LOVE-HESTNES: Midwest?

MR. JACOBI: Bill Jacobi(ph), University of Missouri.

MS. LOVE-HESTNES: Anyone else, within the Continental

U.S.? Thank you. With that, we're going to have Bill begin with some background and comments and Tim will assist with any questions and answers.

MR. GRIFFITH: Good morning, my name is Bill Griffith, and I'm the Facility Programs Manager within the Division of Water in the Alaska Department of Environmental Conservation. I'm going to take a few minutes this morning to provide some project overview information and address some issues that we've been getting questions about. Before I get started. I just want to refer people to the project website, which as Sonja mentioned, there is a link provided at the RFP site, but you'll find a lot of additional information at the project website. Just more information about the reason for the project and additional background information, which I think would be useful if you're interested in responding to the RFP.

Couple of things, I'll -- I'll basically be using the RFP document for reference and I'll try let you know what page I'm on if you're following along.

Beginning on page nine, and really, the key part of this RFP, as far as understanding the project and the project requirements are between page nine and 27. There's obviously additional information you need to pay attention to. But the information I'll be covering is really between nine and 27. Little bit about the need for the project. As you can read in the RFP, fiscal realities require that State and Federal funding

agencies involved with delivering water and sewer systems in rural Alaska begin to address these issues in a different way. Funding for water and sewer system improvements is about half of what it was 10 years ago in Alaska. And meanwhile the funding need associated with existing systems has increased significantly. The current gap between available funding and funding need is nearly $700 million and increasing every year. So, the bottom line is that the path we're on isn't going to get us where we want to go. And we have to find another way, or people will continue to go without drinking water in their homes and the ability to flush a toilet. Or -- and or, people with that service now may lose that service. We simply don't have the funding that's needed to address these problems using our traditional approaches.

There are a number of new decentralized water and wastewater treatment minimization and recycling technologies that have been developed throughout the world really. You can see examples of this all over the place, but they haven't been put together in a way that we think really works for rural Alaska communities. And that's -- that's the intent of this project, just to see whether we can work with some teams. Bring those existing technologies together in a way that may help to address some of the needs we have here in Alaska in less expensive ways, both in a capital construction perspective and in an operation and maintenance way.

Moving on to page 10, couple of points I want to make. The intention of the project is to develop a whole house water and sewer system for homes in rural Alaska. And I think the key thing to point out here is that approaches that are limited to a single component, such as an innovative toilet or an in-home water treatment process, will not be considered. The proposed systems must provide a comprehensive water and sewer service for the entire household. A few assumptions that I want to point out, I won't go through all of these, but I do want to mention a couple of things. Technology developed for this project will be limited to use within a single family-housing unit. There are existing treated and untreated sources of water available in the community that can be hauled to homes. These sources include, but are not limited to, community watering points from a treated source. You can assume that one of those is available in every community and then of course there are various raw water sources available as well such as rivers and ponds and rainwater and snowmelt.

Household systems may accept either treated or untreated water or both. Systems may produce and use water at different but appropriate levels of treatment and quality for different purposes of the home. That's kind of a mouthful, but it's a key thing to understand and as you think about responding to this solicitation. Project teams will need to specify the quantity of water at different levels of treatment that would need to be

carried to the home. Water and sewer service for the purpose of this solicitation is defined as kitchen sink, a bathroom sink, a toilet, a tub or shower and a tap and drain for a clothes washing machine. Now, this is probably the area where we received the most questions is that, you know, are we going to require that all of those services, all of those water and sewer services are available? And, I think the best way to respond to that is that we've identified all those services as a target and we've recognized that that's a high target to meet. And so, as teams during the second phase of this project begin to put together their proposals, we're going to be interested to see whether they can meet that target. One of the questions that we got a lot of, is there a hierarchy of need as far as those services go? And I guess the answer is yes. We believe that the sinks and the toilets are the most important services that we're trying to be able to provide. The tub or shower and the tap and drain for the clothed washing machine would be kind of a secondary need from a health perspective. So again, ideally, we'd like to see all these services provided, but you know, we know we have some -- that's a high target and it'll be difficult to provide all of that within the cost that we've identified as a targets as well. So, keep that in mind, it's not an absolute requirement that we get to all of that, but a team that can come up with an idea that can provide all of it within the cost, would obviously be preferred to a proposal that can only provide

a portion of those.

Couple of things about funding. The State of Alaska fully anticipates that we will be able to provide funding for phases two through five. There's not funding associated with phase one, I'll talk about that in a minute. Teams -- but, I want to point out another, a factor is that teams that are able to contribute any of their own funding toward the development and testing of prototypes and household systems would enhance their likelihood of developing and demonstrating a successful system. But that's not a requirement for any proposal or a team.

On page 11 of the RFP, if you're following along, I want to mention about the operation and maintenance of decentralized systems. We have decentralized systems now in Alaska, wherever we can, traditionally we think about wells and septics as decentralized systems. Those kinds of systems don't require a lot of operation and maintenance. We recognize that the kinds that we're trying to achieve with this project will require more O and M and we believe that a key part of any system we develop would be local operation and maintenance services and we're looking at the probable formation of local cooperatives with trained technicians and we're going to need to think about the supply chain for parts associated with any system that gets funded. So, all of that is envisioned. We know that these things aren't going to run by themselves, that we're going to need testing, we're going to need service, we're going to need

repairs. So, that's all envisioned long-term for any system that we decide to move forward with.

This project will not move forward if less than two teams are selected for proposal development and our targeted range for the number of teams for proposal development is four to six.

Okay, I want to talk a little bit about the project phases and the project scope. This is probably the one area that we have received the most questions on. I want to make sure I can explain this. This document that we're talking about today is called a Request For Proposals and that's led to a little bit of confusion. We understand that. What we're actually asking for in phase one is a Statement of qualifications in response to this solicitation. And so what we're looking for, is for teams to be put together. And I'll talk in a few minutes about the contents of the submittal. But we're looking essentially just for information about that team and how it would go about trying to solve the problem that we've identified. So, we're not looking for specific proposals at this stage. The proposals that get written up will be funded and provided as part of phase two. So, again, phase one is the formation of the teams. It's a three-month long solicitation and we're looking for engineering companies, research institutions, manufacturers, any others who are interested to form teams and respond to this solicitation. We will evaluate teams and score them according to the criteria included. And in

the second phase, up to six of the highest ranked teams will receive funding to develop written proposals. And what -- and so, that's phase one and I'll of course take questions in a minute if there is any further confusion about that. But phase two, written proposals will be developed, will provide up around six months for those proposals to be put together. And at the end of that six months, project teams will present their detailed proposals to the -- to a Steering Committee, it'll probably be next summer, both in writing and in a presentation. We will evaluate and score those proposals according to the performance targets that are identified in this document and will select the most promising proposals to receive additional funding for further development.

Phase three, we're looking to provide additional funding to up to three teams to develop prototypes and perform pilot testing. And we'll provide testing requirements for each prototype. We would like to see engineering plans reviewed and approved by the DEC and the Steering Committee. Prototype development and testing is expected to last up to a year. And in 2015 the results of the pilot-testing phase will be presented. Systems that can demonstrate performance target outcomes will be selected for the next phase.

Phase four is field system development and testing. Additional funding would be provided. Field-testing which is projected to begin in 2015, will include a full year of

operation. We will work with various organizations around the State to identify locations for the field-testing. And again we would like to see the engineering plans for that phase. User acceptance and health outcome would be evaluated during this phase. During the field-testing phase, systems would be closely monitored and users will provide feedback on operation and use. At the conclusion of the phase, each system would be evaluated by the Steering Committee.

During phase five -- a phase five is technology refinement and improvement. Additional funding would be provided to address system inadequacies and failures identified during phase four.

I just want to note, that as Sonja mentioned earlier, we are -- this is an international solicitation. Team members don't have to be U.S. based. So we would welcome anyone providing their services from anywhere. We think that a lot of these kinds of systems have been developed internationally, so we're interested to see if anyone would be interested in working on a team.

Couple things under deliverables. Under this first phase of the project, the State is requesting the formation of teams only. And we're only asking that the Statements of qualifications be submitted by the deadline in November. Up to -- again, up to the six -- six of the highest scoring teams would be selected to receive funding in the second phase.

Beginning on page 15, we have provided information about our projected performance targets. We've gotten a lot of questions about these. We certainly welcome any comments at this stage. We'll continue to accept comments as phase one continues. But just to keep in mind, these are targets at this point, they are subject to change, prior to phase two. But again, these are targets. We're hoping that teams can achieve these. Certain ones are really critical. I'll just outline a couple of those. They've got -- the proposed system has to be constructible and durable. We have a targeted capital cost here of $160,000.00 per home. We've gotten questions about that. That sounds like a high number and it is, if we're talking about an individual homeowner having to pay for it. But it's a lot less than we're currently spending to provide water and sewer to rural homes using a centralized approach. So, I kind of think of this number as a number between, I think an ideal number that might be affordable for a homeowner and something that is clearly unaffordable even for State and Federal funding agencies to continue to provide. So again, this is a target. What we'd be interested to see is whether all the services we've identified can be provided for this cost, or if it might be a better target to think about providing just a kitchen and a bathroom sink and a toilet for much less money. We would consider proposals like that and have to weigh whether or not that would be a better approach.

We've identified again a target of 15 gallons of usable water per person, per day and that's for all uses comprised of water for drinking and cooking, washing and flushing. So, assuming an average household size of four people, that amounts to 60 gallons of water per household, per day. And again, that's a target, and I know that teams will struggle with that and we're wanting to see what they can come up with. And I talked a little bit about previously those basic services, kitchen sink, bathroom sink, toilet, tub or shower and a tap.

Operating costs. Another key element of our targets. We'd like to see total monthly operating costs not exceed $135.00, which is five percent of a mean household income of $2,700.00 a month. We've gotten lots of questions about where these numbers come from. They come from a variety of sources mostly State demographic information. That number is obviously high for some communities and it's low for others. We're just trying to come up with a number that can be used by all teams so we're all using the same numbers. We provided a little information about the assumptions that we think we're going to ask you to use for electrical cost, diesel fuel, treated water cost from a local watering point and a sewage hauling cost if that's part of a system that you provide. We've gotten questions about whether has to be sewage hauled away or can there be other means of handling wastewater. And the answer is yes. You can handle wastewater any way you can come up with,

but if your system calls for sewage to be removed from the household, the house site, then this is the charge that you should assume that the commun -- the homeowner will have to pay.

A few other targets here, we want to see freeze and thaw recovery capability. People that live throughout Alaska leave their homes unheated at various times of the winter. They have to be able to do so and then get their system back online. A target is to have they system as modular as possible, which means we can have plug and play components. To the greater extent to which that can be achieved obviously is better. We obviously have to think about compliance with a plumbing code ultimately and we don't expect that -- we do expect that there will be work with the Alaska State Uniform Plumbing Code Office and that we may need to request variances for systems that get developed. We'd like to see the system developed with parts that can be made readily available, those will be considered. Those will be scored higher during phase two.

And then I'll just talk briefly about deliverables for phases three, four and five. Under phase three, selected teams will receive funding to develop a fully functional prototype. Testing requirements will be provided under phase four. Fully functional field-testing system will be funded -- these will be funded in places probably like Fairbanks and Bethel, but they'll be put into homes and monitored closely so that we can get feedback. And under phase five funding would be provided to

refine systems according to the test results in phase four.

Okay, I'm going to jump ahead to page 22. Mention a couple things about minimum qualifications. This is probably the most important part of this RFP for people to focus on. We're looking for the teams to have members that can meet all of these four minimum qualifications. And I just want to briefly outline these. One or more team members must have prior engineering design and construction experience in water and wastewater in remote and austere environments. So, it isn't -- you aren't required to have somebody that has Alaska experience, but it's got to be in an environment that's challenging. It's got to be a remote environment where the kinds of access to parts and services aren't readily available. P.E. Registration is not required for this team member. One or more team members must have participated as a principal team member on at least one project, which successfully develops solutions and alternative and non-traditional, sustainable approaches to addressing water and sewer needs at the household level. Such as treatment reuse and recycling for example. We're looking for one or more team members to have participated as a principal team member on at least one project, which successfully evaluated public acceptance and receptivity of the use of health related technologies in a household setting. And then one or more team members must have participated in a principal team member on at least one project, which used a certain type of

technology development, which included soliciting and incorporating input from end users on new technologies and methods. This approach is sometimes referred to as to design thinking. The key element here is that we're looking for someone who has experience in using -- in utilizing user input from the very beginning of the design process. And we would expect it during phase two, that would be the -- every team's approach to be talking to end users about what would work for them and getting their input throughout the development of their proposal.

Briefly, proposal content. You want to pay attention to page 23. Beginning on page 23, I won't go through that in detail, but there are several pieces of the proposal that have to be included in order for them to be evaluated. The evaluation and criteria and scoring information is provided on page 25. And you might also make sure you're familiar with the interviews and presentations which would -- we would expect to conduct with up to 10 of the responsive, highest scoring teams according to the scoring completed in step one. So, we'll first evaluate each of the proposals in writing and then we'll conduct interviews and presentations with up to 10 of the highest scoring teams.

So, that's the end of my overview and I'm just trying to provide some clarification on some of the questions we've received so far. And I think at this point, we're ready to open

it up for questions.

MR. HOFFMAN: So, questions out here?

MR. GRIFFITH: Well, we'll accept some questions from the room here first and then we'll move to the phone.

MR. HOFFMAN: And if you can just say your last name and spell it for our transcriber then your question.

MS. KEISER: Jan Keiser. K-E-I-S-E-R. ILF Consultants. Could you please explain the intent and nature of the waiver if you intend to do some of the work outside the U.S.? Is that a waiver or a disclosure? What does that really mean? Thank you.

MS. LOVE-HESTNES: That's a regulation as far as for DOT, State of Alaska. We just have to get the actual approval from the Chief Procurement Officer.

MR. HOFFMAN: Another question?

MR. AREHART: Okay, last name is Arehart. A-R-E-H-A-R-T. My question is -- is there any clarification about regionally based solutions because this is things -- vary quite a bit throughout this State?

MR. GRIFFITH: Yes, that's something that we've talked a lot about. There's obviously a lot of -- a lot of variation in the environment that villages are located in. Most of the un-served homes at this point in the State are located in either the YK Delta or the Interior. But we've got homes that alack running water and sewer service everywhere from Southeast to the Northwest. So, we're looking for obviously an approach that

could work just about anywhere would be optimal. But, you know, if a particular approach might work best in one region, that's certainly not ruled out. We'll take a look at it, but we are just looking for a single proposal ultimately from each team so we can evaluate it fairly.

MR. AREHART: So, you're just saying you want to focus on the Sub-Arctic and the Arctic regions?

MR. GRIFFITH: Well, I am saying that's where most of the un-served homes are. So, we obviously want a solution that can work for them, but if you've got a solution that might work best in Southeast, but that be usable elsewhere, we'll certainly consider it. But we want something that can obviously meet the needs of people in YK Delta, the Interior, that's our primary focus because that's where most of the un-served homes are.

MR. RONIMUS: Art Ronimus. R-O-N-I-M-U-S. The question I have is about the team evaluation. And because you may be asking for an assembly of people from different firms, who would you expect to take on the primary role as the primary contractor? Because there may be a lot of subcontractors and other members just through business affiliation. Is that critical?

MR. GRIFFITH: Well, we need to understand how the team is going to work together and be managed. That's one of the requirement in the RFP, is for each team to explain how the project will be managed and how people are going to work

together and who the primary point of contact is. But we don't have any requirements in that regard.

MR. ALLEN: Yes, is the State going to provide a little more structure on how you wish to have the voice of the customer reflected in the final solution? Do you want to run a number of clicks, do you want to run surveys? Exactly how do you want that to happen? Because currently, it just says voice of the end user needs to be reflected in your project somewhere and somehow.

MR. HOFFMAN: Can you also say your last name?

MR. ALLEN: Tim Allen with Co-Water.

MR. GRIFFITH: Yes, again, another key part of this project is for teams to identify how they're going to incorporate user input throughout the development of their proposal and subsequent phases. So, we'll be looking at teams to prepare their own plan for that. In addition to that, we're in the process of putting together a couple of user groups made up of residents from rural Alaska, who can be made available to teams and available to the Steering Committee. We expect to be gathering some input from them and utilizing their input as the project goes along. But we're going to have them available as resource, but we want to see what teams come up with as far as how they intend to incorporate user input.

MR. RONIMUS: Art Ronimus again. Has the State set a specific public health objective here so that the facility once

accepted is functional on par with what a public water system and a sewer system might provide for water quality or public health benefits?

MR. GRIFFITH: Well, that's the idea behind the targets. We believe that if the -- all of those targets can be achieved we would have a system that was on a par with a system that was piped. But, again, we don't know how achievable those targets are until we see some of those proposals and then ultimately the prototypes and field models. So again, you know if all the targets are met and people have that much water available for all those purposes we believe that system could be on a par, but we'll have to see how achievable that is.

MR. RONIMUS: I guess the follow up question is that the regulations currently are pretty specific about the water quality that you can get from a public water supply. Would those same criteria apply to this system in the home?

MR. GRIFFITH: Yes, that's a question we've been getting in writing and we'll provide some responses to that here shortly. But the requirements for a public water system obviously only apply to water that that system provides to the public. So, any water that is hauled to the home from a public watering point, those standards obviously continue to apply. The difference with the decentralized system is that you got the ability to either treat raw water for other purposes in the home or recycle water for other purposes -- for purposes other than

drinking. And those same requirements don't necessarily have to be met. Now, there's going to have be some standards established, and again, we'd be probably working closely with the folks at the State Plumbing Code Office about some of those requirements. But, you know, an example is water used for flushing toilets, if it's not -- if that water isn't provided by a public water system, the same requirements don't apply to it.

MR. DOTSON: Aaron Dotson. My last name is spelled D-O-T-S-O-N. So, only challenge I have with that discussion is the concept mentioned in the proposal of kind of community maintenance. If community maintenance is invoked, it technically would probably fall under a community water system of point of use or point of entry devices, even if it's in the home. Does -- is there a comment of State of how to attend to that concern?

MR. GRIFFITH: I guess -- I guess my response to that, we'll look further into that. That hasn't been our determination at this point that if there is a local Co-op that is available to provide services to homeowners for equipment in their home. It hasn't been our interpretation working with the drinking water program to date that that would constitute a public.....

TELEPHONE OPERATOR: Now attending.

MR. GRIFFITH: .....sorry, that that would constitute a public water system, but with that question specifically in

mind, we'll continue to look at that. That's obviously a key consideration going forward.

MR. DOTSON: Bill, let me clarify one more time here.....

MR. GRIFFITH: Yes.

MR. DOTSON: .....it's not particularly if a private entity builds a company that is part of this Co-op, its if the community generates a State-Government or community funded enterprise that manages these. I think there is a clear delineation, it even stands with point of use devices if a city installs it versus a private company. So, I think that's where I'm kind of approaching.

MR. GRIFFITH: Okay, thanks Aaron, I -- we'll take a look at that further with that clarification. I guess, you know, we haven't thought about it in those specific terms, so we'll take a look at it and try to get a response back.

MR. RONIMUS: Hello, this is Art Ronimus again. I guess the follow up question is that the possibility of different water quality in the home generally the regulation is a risk-based analysis. But -- and there's some pretty specific requirements that you not be in contact with recycled water, is another thing for that purpose. So that drinking water is first water, and all other contact water generally have to meet the same drinking water standard. Is there something else in mind that you have that is setup -- a different standard than that? Because that's a pretty high bar to reach, in terms of use and

exposure in the home.

MR. GRIFFITH: Yes, well it certainly is our expectation that all water wouldn't be treated to the same the level for different purposes. That the only water we expect to be treated to drinking water standards is the water used for drinking and cooking and so on. What standards other water uses are treated to, is going to be up to the individual teams and the approaches that they identify and how much risk that represents is something that we'll be evaluating as we go along.

MR. RONIMUS: I guess that the follow up is that there are currently regulations that address that currently, and so you might run into that as an obstacle. If EPA has a standard for what drinking water is and even the State has that same standard, are you asking the teams to basically comply with all existing requirements and not look to variances, say for incidental contact with recycled wastewater? Because that's a pretty significant issue here. Because of the quantities that each use might require.

MR. GRIFFITH: Right. I mean we're obviously looking at that. But again, a lot of those drinking water standards don't apply to water that isn't provided by a public drinking water system. So, we'll be taking a look at all of that as we go along. But, all of those questions haven't been answered at this point.

MR. TSIGONIS: Bob Tsigonis. T-S-I-G-O-N-I-S. What was

my question? Will you be at -- the questions that were submitted previously in writing, will you be addressing those in writing as well?

MR. GRIFFITH: Yes. Yes, we have all those questions and within a week to 10 days or so, we'll be providing responses to all of those questions in writing as part of an addendum to the RFP. And in addition to responses to the questions being asked here today.

MR. TSIGONIS: Okay. I kind of felt we might be discussing those today, but .....

MR. GRIFFITH: There was a lot of them.....

MR. TSIGONIS: .....I'm sure.

MR. GRIFFITH: .....we opted not to go through them all.

MR. TSIGONIS: Okay.

MS. KEISER: Jan Keiser again. I think one of your criteria, I think it was the second one, asked for experience with water and wastewater projects related -- where particularly public health data were collected and monitored. Are you expecting the teams to come with public health statistician expertise? Or will you provide that? Or does that State have enough of that? Could you explain that and the intent of that criteria?

MR. GRIFFITH: Sorry, I'm going to try to look at that while I answer the question.

MS. KEISER: It's the second to the third one.

MR. GRIFFITH: The second one is that we're looking for a team member that has worked on approaches to addressing water or sewer needs at the household level. Is that the one you are asking about?

MR. KEISER: It's the one where you're specifically looking for preferred where there is public health data collected and monitored, I think.....

MR. GRIFFITH: I think it might be number three. Someone whose worked on a project to evaluate public health acceptance and receptivity of the use of health related technology in the household setting. Well, we're not planning to -- we've got some people on our Steering Committee with that kind of expertise. So, you know, we'll be relying on them to look at the team members that can best meet that requirement.

MR. RONIMUS: Art Ronimus again. Is the system meant to be entirely independent without -- an isolated cabin is one incident -- one situation, but in a community that already has pipe components or haul components, are those to be excluded from the proposal as being able to offer a service? In some instances, a hundred and sixty thousand dollar budget might allow pipe extension for say-- is that off the table as a remedy? Reliance on any form of haul or pipe systems currently and only the watering point or no washateria.

MR. GRIFFITH: Yes, we anticipate that a lot of approaches might -- might anticipate that there are sewage hauling services

available. If it's not going to be possible to treat and dispose of all the sewage onsite, we -- we're guessing that a lot of approaches might rely upon that service, but we're not looking for any approaches to include pipe service or necessarily the available delivery of water to the home. But we do anticipate that there is a public watering source available in every community. So really, the only service that we think that may be required would be the ability to have sewage hauled away.

MR. TSIGONIS: Bob Tsigonis again. So, for clarification then, we are to plan on the home -- the individual homeowners hauling water to their home?

MR. GRIFFITH: Yes. As much as they need for whatever purposes that the home system can manage. That's right.

MR. TSIGONIS: Okay, and one other question. The 25 cents a gallon for sewage hauling cost, would that pertain to sludge removal also?

MR. GRIFFITH: Well, we hadn't -- we had not established a separate cost for sludge removal. So, I guess the answer would be no. We'd have to take a look at that whether or not that would be a different cost or not. And we'll take a look at that -- try to have that answer. We'll certainly have it available for phase two but.....

TELEPHONE OPERATOR: Now attending.

MR. GRIFFITH: .....when we identify that cost, we were

thinking of wastewater as opposed to sludge.

MR. THOMAS: Tim Thomas (Indiscernible - interrupted).

MR. KAMLER: (Indiscernible - telephonic speech) question from Juneau.

MR. GRIFFITH: Sorry. Go ahead Tim.

MR. THOMAS: Just a question, how many homes are you sort thinking about will be needing this put into?

MR. GRIFFITH: Well, right now we know there's roughly 6,000 homes that lack running water and sewer in rural Alaska. But some homes that we currently count as having service are struggling to maintain that service. Some of them were originally hooked up to pipes or haul system and may be having trouble with that service for some reason, may not currently be receiving it. So, they are candidates as well. Depending on the type of system that is being proposed, it's possible that it could be used in conjunction with an existing community system of some kind. So, just as an example, there are some water systems that are not able to provide as much water as people are using -- would like to use in their homes. People are on water restrictions because the -- either the source or the treatment system isn't capable of providing enough water. So, it's possible that if there was a water use minimization system or recycling system, that could be put into a home and allow that existing system to provide better service to the home. So, you know, at a minimum, we're looking at those 6,000, but we believe

there are homes that we may have counted as served that could benefit from different approaches as well.

MR. KAMLER: Question from Juneau.

MR. GRIFFITH: Do we want to take a few.....

MR. HOFFMAN: Want to take a few on -- from the phone?

MR. GRIFFITH: Sure.

MR. HOFFMAN: (Indiscernible - interrupted)

MR. GRIFFITH: Let's take a few questions from the phone line and then we'll see what else we have in the room. So, go ahead Juneau.

TELEPHONE OPERATOR: Now attending.

MR. KAMLER: (Indiscernible - telephonic speech) Throughout your -- this is Jonathan Kamler with University of Alaska -- it's inflicted throughout your, I guess nine parts of phase one and phase two that you have here, but nowhere in it does it explicitly layout that there's either points or consideration for potential reduction in green house gas (Indiscernible - telephonic speech) from a proposal. Is that in any way explicitly handled?

MR. GRIFFITH: Your question is about whether or not the reduction in green house gases -- how that would be potentially be handled? Do you mean in a part of an evaluation criteria?

MR. KAMLER: Yes. Exactly.

MR. GRIFFITH: When it comes to evaluating the proposals, the specific criteria, evaluation criteria, haven't been

established at this point. I can say that that isn't something that we've talked a lot about, but it's something that I guess we'll consider as a suggestion. But we hadn't identified that really as an evaluation criteria for the proposals.

MR. KAMLER: Thank you.

MR. GRIFFITH: Other questions from folks on the phone?

MR. CID: Yes. Clement Cid from CalTech. I have a question regarding the number of team members. So, is there any maximum?

MR. GRIFFITH: Question is about the number of team members. There is no maximum number. No. Nor is there a minimum. We imagine that there will be cases where one team member can fulfill more than one of the minimum qualifications. So, there's no minimum and there's no maximum.

MR. CID: And regarding the type of funding for the second phase, how does it work? Do we have provide a budget for the writing of the proposal? Or will it be directed by the State of Alaska?

MR. GRIFFITH: We will negotiate that cost with each team that is selected. We have funding available obviously for phase two, so we'll be looking at the funds we have available and we'll be working with teams to negotiate a cost.

MR. CID: Okay. Thank you.

MR. GRIFFITH: Let me see if I anymore questions on the phone. Okay, we'll come back to that, as we've got another

question in room up here Tim.

MR. ALLEN: Will there be any opportunity given to reconfigure teams after phase one is complete? In other words, if we get into phase two or phase three, there's a portion of one of the solutions that looks very promising, but the rest isn't. Is that opportunity going to exist or are teams cast in stone at the end of phase one?

MR. GRIFFITH: We'll we're obviously interested in teams trying to remain constant, of course things happen and that may not always be possible. So I thought a little about that, we don't have much information in the RFP about it. We did get a question about that. So I believe we'll be working with teams kind of on a case-by-case basis. We would be looking for them to replace any team members that are not able to stay with the team with -- somebody with similar level of experience and background and obviously if we believe that the degree of expertise falls off far enough we would obviously have the option of not continuing to work with the team. But, you know, we recognize team members may have to -- may not be able to stay with it for the duration of the project in some cases.

MR. ALLEN: What technologies?

MR. GRIFFITH: Well again, we recognize that based on the prototype development and field testing, there may have to be some changes in how the team is approaching the problem and again we expect that there will be some lessons learned as you

go along and some changed made which could result in changing some of the team members, but again we'll have to work with teams on that and just make sure that -- you know it makes sense and.....

MR. ALLAN: That didn't address the technology (Indiscernible - interrupted).....

MR. GRIFFITH: Okay, you might want to explain (Indiscernible - interrupted).....

MR. ALLAN: The technology fails partly through, will you be able to -- will you be permitted to replace it with alternative technology or approach?

MR. GRIFFITH: I guess we'll have to think more about that. I guess the answer is potentially. I mean, we're not looking for a team to come up with one idea then completely switch to another idea, but on the other hand we recognize they may learn things as they go along and we want to be able to allow for that.

MR. RONIMUS: Art here. One of the assumptions you mentioned was that each commun -- each home might have access to a watering point and that's in a community setting. If on the other end for the wastewater generation, is it assumed that every community will have an improved wastewater disposal site and a home would not rely on on-site capabilities?

MR. GRIFFITH: Yes. That is assumed. It is assumed that there will be a means of disposing of wastewater that has to be

hauled away from the home.

MR. BARON: Hi. Kilby Baron. B-A-R-O-N. With Cowater. Can I just try and get my brain around this a little bit more in the sense of -- you're looking for un-serviced homes the primary target here, about 6,000. And -- but at the same time as I'm understanding everything, we're putting an envelope around the home and we're saying don't worry too much about how the water gets there and don't worry too much about how the effluent gets out of the that envelope, just concentrate within the home. So, we're targeting the un-serviced homes that are not getting anything today and yet we're saying don't worry about that in this study, because this study doesn't address getting the water too or from -- or effluent away. Is that about right?

MR. GRIFFITH: That's essentially correct. All these homes, all these 6,000 homes, all but maybe a handful, have access to a community watering point now. They all haul limited amounts of water to their homes now and we expect that they can continue to do that. Obviously the less water they have to haul the better. They're all dealing with hauling honey buckets away from their home at this point or some other similar approach to disposing of wastewater. We want to see that burden reduced significantly. The less wastewater that ultimately has to be hauled away from a household system, the better. It'll cost them less. It'll be less a inconvenience for them. But we recognize that ultimately because of the places a lot of these

homes are located in, it's not going to be possible potentially to dispose of wastewater on-site.

MR. BARON: Okay, I've got that. All right, so with that framework in mind, the -- one of the biggest challenges with operating and maintenance of a system or an individual house system is the cost with delivering that water and the cost of taking that effluent away. So, we're just going to go with the assumptions that you've given us on the dollar cost for that, but not worry about minimum -- like, because obviously if you can minimize that, those costs.....

MR. GRIFFITH: Exactly.

MR. BARON: (Indiscernible - interrupted)

MR. GRIFFITH: That is -- that is, we obviously have water and sewer haul systems today. That people pay for water delivery and for sewage hauling. One of the big challenges with those systems is that if people are going to be using the kind of water, the amount of water that we believe is demonstrated with the maximum health benefits, say 60 or more gallons per household, per day. It becomes very expensive to deliver that much treated drinking water and remove that much wastewater from a household every single day. So, we're looking at approaches that can potentially reduce both of those things and make it affordable to use that much water in the household.

MR. BARON: Okay. And the follow up -- that last, I guess, part on that, was these 6,000 homes -- it's part of our

desire obviously with our time here, to be able to get them what they need as soon as possible. And so the first reactions we had with the whole timing was, boy, is everything kind of waiting until this is done? Because that's a lot of folks waiting for this service to their homes.

MR. GRIFFITH: Yes, they've been waiting their entire lives. Obviously, watching some communities get hooked up and other have been waiting. Yes, that's really why we're doing the project, I mean, I suppose we could all wait around for technology to evolve and products to become available. But we're trying to kind of accelerate that natural process a little bit with this project. We just know that we don't have the money anymore to be able to put these centralized systems in. We estimate that the cost of providing service to these 6,000 or so homes using centra -- using a kind of a traditional centralized approach, probably begins at about 500 million dollars and increases from there. But probably at least as importantly, the cost of people being able to operate and maintain those systems is unaffordable using centralized systems. So, we don't have the option of doing it with centralized systems, we don't have the money to do it. We don't just want to wait around for different approaches, different technologies to sort of become available on the market. Because we don't know how long that'll take. We don't know how long commun -- people are going to stick around and wait. So, we're

trying to accelerate things with this project. We actually, you know, it's been pointed out that the term new technology is a bit of a misnomer. We don't necessarily think that what's needed is somebody to go and invent something necessarily, but to look at products and approaches that are available now, maybe for different reasons and different places and put them together in a package that would -- could work for a rural Alaska home.

MR. TSIGONIS: Bob Tsigonis again. From the Sate's perspective, would you have a problem if, for example, a company or a -- put together a team and was a team leader or -- on a team, but also offered services to other teams? Like fabrication services for example.

MR. GRIFFITH: Yes, that's one of the questions that we got in writing. It depends on the role that that company or individual would play on the different teams. If you're a primary team member, we'd expect that you'd only be on one team. But if an off the shelf product is incorporated as a part of another team's approach, that can potentially be allowed. But as part of somebody playing an active role in creating a new approach, we'd look for you to do only do that on one team. So, I guess it kind of depends on how your role is described on -- if you're going to try to be on more than one team. You could run into difficulties there.

MR. RONIMUS: You're doing a good job Bill. One other question, would the State or other agencies be committed to the

individual home as they currently are with public water systems? The State has the RMW program and ANTHC has a lot of technical assistance. What can individual homeowners or the system expect for support beyond the initial installation kind of thing?

MR. GRIFFITH: Yes, absolutely we would expect that the same kind of technical assistance would be available but probably not targeted at homeowners, but some of these local cooperative that we envision would be part of providing technical assistance to homes for some kind of a monthly fee let's say. We would look to providing training services to those technicians and again trying to facilitate the availability of parts that would be needed for the systems that might be employed.

MR. COOPER: Dave Cooper. C-O-O-P-E-R. I know that in a lot of these of villages the homes we're working in don't have an existing water system. They don't have a bathroom, a kitchen and the projects that are working in these villages, their task to go in and fit a whole facility inside an existing home. Would this proposal allow any expansion to the square footage of the home to allow for a modular unit to be built that would allow for a bathroom and a kitchen to be put on the side of a home? Or does it all have to fit within the existing building?

MR. GRIFFITH: Well, that's one of those targets. I mean, are the ideal system we'd be looking to utilize available floor space, which is really a requirement for most of our -- that

come from our Federal funding sources generally. And so, we don't expect that requirement to change so, we're not looking to add floor space typically in order to provide for a bathroom. Obviously, we could provide funding to install plumbing, but the target is to come up with a system that utilizes available floor space. Now, again, that's a target, that's a goal. If it's impossible to do with a particular approach, we'll take a look at it. But the challenge is finding, particularly Federal funding that would allow us to add floor space, it's hard to come by.

MR. RONIMUS: You mentioned the suitability of the system to be subject to funding from State and Federal sources and I'm kind of curious about what's going to be required for this prototype to meet for eligibility for that funding?

MR. GRIFFITH: Well, that obviously is -- question is about eligibility for State and Federal funding as we go along. Obviously, it's our intention to make sure that anything that gets developed is eligible for State and Federal capital funding sources. We have all of the current funding agencies on the Steering Committee were making sure we work closely with them an ultimately can be able use those existing funding sources on any systems that are developed. Other questions on the phone? Questions in the room? Got one here.

MS. SHIRLEY: Hi Bill. Long time no see.

MR. GRIFFITH: Yes.

MS. SHIRLEY: Jacqueline Shirly, Zender Environmental. My last name is spelled S-H-I-R-L-E-Y. I have a couple questions. The first one is now the centralized versus the decentralized. Centralized are more the public, you know the project -- whether the Tribal Government or City Government applies for the grant, they're the -- you know, they get the project, whether through ANTHC, VSW. Decentralized when you're talking about individual households, you know, is it -- how do we get these proto -- how do we get to the end user? Now are you going to have 6,000 proposals -- oh, I want one and you know, is there going to be -- is it going to be just another system within ANTHC or VSW? How -- I mean how do the people get this prototype in their house? Are they going to have to be a grantee from the State? Because you know many grantees in the centralized -- you know there's a lot of barriers and a lot of times projects are put on hold because that government hasn't met the requirements for the grant to move forward. They haven't done something that -- oh you can't have -- we're stopping the project. You know, so I mean, are you going to have 6,000 grantees? Another one, this gentleman in the white shirt asked, is each individual household going to be responsible for hauling that much -- hauling the water to their house? Well whether it's, you know, the individual household owner or a delivery operator delivering water. What if it is going to be depended on the household owners to -- wow, I can't even imagine me and my uncle hauling,

you know 80 -- I mean having 60 gallons of water a day. And then if we had a tank that held that much, then you -- you know, it just causes a whole -- but your answer to him was, well whatever the household can manage. Well, whatever the household can manage, is not is not the public health standards of 15 gallons per person per day. And -- so there's a lot of, you know, conflict and -- and if we can't use existing systems to enhance what, some of the good that is going on already -- some of the -- you know some -- a lot of the 6,000 homes are because they're not on the grid. Or because, well that house is not on that land so there's a land issue and we got to -- you know, there's good systems out there, but -- red tape. And some of the innovation might be how to deal with the bureaucracy and red tape.

MR. GRIFFITH: Uh-huh. (Affirmative)

MS. SHIRLEY: And have, you know, the end users I here today, you know saying -- telling us what the prototype is.

MR. GRIFFITH: Uh-huh. (Affirmative)

MS. SHIRLEY: Not us telling them and then we design the prototype on -- but they have designed. So, I don't know if I -- if those were questions or comments or just observations, but thank you for listening Bill.

UNIDENTIFIED MALE: (Indiscernible - away from microphone)

MR. GRIFFITH: All those comments are appreciated. Maybe I'll talk briefly about the last one first, the point about

having those users really inform the proposal process. I think that that is something we're looking for in each proposal is for teams to think about how they can best do that. The idea that they're going to be working with users right from the beginning of developing their proposals, getting their ideas on what could work and what couldn't work and what their concerns might be in developing a proposal and then going on into the prototype testing. How are you are incorporating user input, feedback at every stage of the work? I think that that's key and that's why we have a couple of different team members that we're asking to be on every team that have expertise in that and that are going to be helping to design the approach. How much can a household manage in terms of hauling water? That's a very important consideration. I don't think there's probably hardly any households that can manage to haul 60 gallons per household per day. Very effectively without a lot of trouble, that's why we're looking for systems that don't require anywhere near that much water to be brought into the home everyday. Because that just -- that's unmanageable and it's unaffordable. Who is the grantee? We would look at potentially both types of grantees if there are some community infrastructure improvements that are needed as far as say, access or sewage hauling equipment, we would take a look at that. But we would also like to -- if we can successfully develop individual systems, we'd like to have a program where individual homeowners could apply for these

improvements. And no, they wouldn't be subject to the same kind of local capacity requirements that communities are when we fund, let's say a centralized water plant or a wastewater plant or a lagoon or something like that. We wouldn't have those same requirements for individual households. There's one over here, Aaron.

MR. DOTSON: This is Aaron Dotson again. The last part kind of concerns me is that they wouldn't have to have the same community capacity requirements. There's a potential that these systems are utilizing technologies that are probably different to the community or otherwise, maybe, just different or maybe advanced in some way. Without the capacity, it's unlikely that they're going to succeed past their origin -- their initial failure. Other than a cooperative, are there -- is there any other way the State is trying or going to feed into this project? How they're going to intend on supporting -- continued support if the homeowner doesn't have to meet community capacity requirements?

MR. GRIFFITH: I guess the clarification is that we obviously want to make sure that communities have the capacity to provide the necessary support to individuals, but individuals would have requirements than communities would. So, just to clarify that, so if you're an individual household, there may be some requirements in order to receive funding for these upgrades, but that's going to be a different set of requirements

that we're thinking about at the community level.

MR. RONIMUS: Art again. Over the years, much of the Federal and State programs has developed around a qualification-based, RUBA-compliant, another -- other mechanisms so the community can demonstrate it's ability to manage these systems. An individual homeowner isn't like that. And so the range of household size and income size varies tremendously. I foresee there being a challenge here because some of the -- some communities are individual homes are poor, don't have the cash income and so forth. I'm kind of curious if this is going to be a true public health approach? Or will there be additional requirements of a means test that you satisfy certain financial criteria -- your household income, you only have four people in this household, not 10, I'm kind of curious about the this system can be as flexible to meet the public health requirements, yet be inhibited because these people are poor or they're dysfunctional -- I don't have heat or -- you know, the real public health need needs to be looked at as far as being an express requirement, kind of curious what your philosophy is on that one?

MR. GRIFFITH: I don't have an answer to all those things. You know, some of that depends on what kind of system is proposed? What kinds of monthly cost are associated with it? Again, this is where there may be advantages to thinking about sort of a minimal approach that just has say, sinks and a

toilet, versus you know, the full range of services that I guess are ideal. It might be nice to be able to operate -- offer individual households a system that provides some real basic services at a lower cost. So, we do want to take a look at those kinds of approaches if that's the way that a team wants to go. And that may be a better fit for some households than others, so, those are very valid points, but we obviously don't have that all quite figured out yet.

MR. THOMAS: This is Tim Thomas again. Could you clarify, was the target of 15 gallons per person per day, a requirement for these proposals to actually demonstrate that? Or.....

MR. GRIFFITH: That's -- we call that a target, so you know, that's because.....

MR. THOMAS: (Indiscernible - interrupted) any gallons per person, per day going to be acceptable? Or it has to be 15? Or it's not -- the proposal will not be accepted?

MR. GRIFFITH: Absolutely not a minimum qualification or a requirement. It's a target based on some surveys we've done of health literature that indicate that, you know, the more water that's used in a home, the healthier people are. The less incidents that we see of things like, respiratory infections and skin infections. So we want to be able to achieve that level of water use, but again it's a target.

MS. RODRIGUEZ: It's Caitlin Rodriguez, R-O-D-R-I-G-U-E-Z. So, I know you -- that at least the impotence for this project

seem like a financial decision based on the State. But I was wondering if you had a sense on any community reach out or, you know, any request from community for these types of projects? Because it could really sway how much involvement you would have to do in surveying or potential community integration of the project. If you just you have a sense of how much -- if the community -- was really reaching out and asking for new technology or if this is purely come from a State financial decision?

MR. GRIFFITH: Well, it's both for sure. We get, obviously a lot of -- we have a lot of interaction with community that don't have service and our discussion with them generally are, you know, they're looking for anyway that we might be able to come up with that can get running water and sewer service into homes. What they're familiar with are centralized approaches, you know, pipe systems, community haul systems. But we've got individual homeowners we've talked to. We've got communities we've talked to that are interested in working closely with the project, and certainly we want to make all those people and communities available to teams, especially during the second phase to get their input, feedback. But no, it's not just -- this idea is not just the State. It's definitely communities and individuals that want to take a look at other ways of approaching the problem because they know that either we can't afford to build it or in many cases they've come

to their own conclusions that they can't afford to operate the kind of technology that's available now.

MS. KEISER: Jan Keiser. K-E-I-S-E-R. So the problem is one we've been trying to address as an industry and as government officials for decades. And some of the solutions aren't any closer at hand now than they were decades ago. And the problem isn't just a technology problem, it's also social economic, political, policy -- so how are you positioned to address some of those issues from a systems point of view -- not just design thinking -- but a system's thinking?

MR. GRIFFITH: I don't know that I have an answer to that one. You know, we'll take a look at it and maybe talk amongst the Steering Committee and see whether we've got some answer to that. But I don't have a ready answer to that.

MR. SHIRLEY: Jacqueline Shirley. I would just like to address that gentleman in the blue shirt -- or was

UNIDENTIFIED MALE: (Indiscernible - away from microphone)

MS. SHIRLEY: Yes. The 15 gallons per capita, per day, I'm kind of applauding the State because they've actually bumped it from the 10 for the UN -- that's a minimum public health standard. The United States we use, citizens, we use almost 100 gallons per day. And so, when I did that research, when I did get that thing many years ago at ANTHC, the Tribal people in this State were -- just the minimum standard is good. It's terrible that we have to accept the minimum instead of the

maximum standard. And so, the minimum standard needs to be there and I applaud that it's -- they bumped it up by five gallons, you know, because we deserve more than minimum. But it is hard. There is a social economic -- the most public health -- the people who need it the most can't afford -- the least, they're the ones who can't even afford it. And they're the ones who need it the most. So, that you know -- and, I'm terrible with names, the lady in the black shirt, those things will -- there will be failure because those issues are not addressed. The social, the political, those things, the capacity -- the capacity to dev -- the acceptance, the public acceptance, I applaud again the State for seeing that. We've been -- some of us have been beating this door down for many years about that. And -- but at least find -- you know -- we were talking amongst ourselves in our organization, that at least it's been addresses at -- something's not working, let's try something else. But boy, sometimes you know -- hopefully this won't lead us to failure this way too. Unless those -- unless the root cause of the failures are addressed, we're going to fail again.

MS. KEISER: I have two questions, an easy one and a more difficult one. The easy one is, could you describe in a little more detail what you would like to see in the innovation plan? Are you actually looking for ideas, suggestions of what would we approach in terms of the actual technology? Or is it how would we approach developing it? The second one is, you've mentioned

that you have a Steering Committee. We saw that. And you're putting together some user group teams and you would make these folks available to the various teams for purposes of collecting customer outreach, etcetera. So, you could have up to six teams all approaching these folks. Have you thought about how you might organize that so that nobody's overburdened by talking about the same thing multiple times, etcetera?

MR. GRIFFITH: Yes, to answer the first question on the innovation plan, we're not looking for the specific plan to be presented during phase one. But rather, how you would incorporate innovation into your plan, whether through team members or how specifically you're going to be innovative in your approach. So not -- we don't want to see specific plans in phase one. And then, how we would expect to incorporate input and feedback from potential the same set of users? We don't have all that figured out yet. It all kind of depends on, you know, how many teams we do end up with, whether we end up with two of them or six of them. We'd like to have enough of them so that they're just not bombarded from the, you know, with the same kind of questions over and over. We'd like to probably be able to limit that and not overwhelm people, but no, that's being worked out.

MS. SVANDA: I'm Tracy Svanda. S-V-A-N-D-A. And, is there for the 6,000 underserved or un-served households, has some companion power supply data been made available? Or is --

available to teams to know -- I guess how much energy might be available for in-home treatment systems? Or whether some options like heat recovery can be a part of the solution?

MR. GRIFFITH: Well we do identify the un-served homes on the project website, excuse me, un-served communities. Where a community is defined where less than 55 percent of the community homes lack running water and sewer. So, you can get a feel for where those homes are located from that list of un-served communities. But we don't have any power supply information available. It's probably up to teams to probably research that information on their own. As far as heat recovery, probably just looking at the potential for that within a home as opposed to a community level.

MR. THOMAS: Hi, this is Tim Thomas again. Just a question about sort of the community engagement components of this and whether these communities sort of are ready for being approached, I guess. In conversations with people out in villages, city administrators -- I've been to a few villages that don't have piped water. They sort of -- there's this perception that they're on the list, that sooner or later piped water will be coming. And if you go to them now and say actually, you know, you're way down on that list and we need to start going down another track are -- have you had conversation with people in these villages that have been identified, that you know, that need to start thinking along a different road?

Or is that going to be confrontational type of discussion if we go out there and have these conversations?

MR. GRIFFITH: So, the question is, you know, what's the extent of discussions we've had at the community level about this challenge and the difficulty in providing services. And it obviously varies but we've had a number of those kind of conversations with communities. And what we've told a lot of them is that we don't see that we have a feasible way of providing services to homes in your community. A washateria is going to be an important part of service in your community for years to come and we're working on developing new ways, potentially, or providing service to individual homes. So, we have had that discussion. It's generally not confrontational. I don't think it comes as a shock to a lot of communities that we don't have an affordable way of providing service, especially when we're able to provide information about the kind of capital cost and operational cost that would be associated with a centralized system. So, it's more -- the challenge is more just being able to have the discussion. Being able to get out there and talk to people and share the information we've got. I think people understand the difficulties. They're obviously anxious for us to try to come up with some new approaches, but you know, what we're trying to do is have that discussion with as many communities as we can. And we've had it with a number of them, but you know, not all of them. We've got roughly between 30, 40

communities that don't have service at this point. Now, about 10 of those we've got active projects going on to provide centralized systems. So, at the end of that -- at the end of those projects we'll have about 30 communities that don't have service and we don't have a good solution to providing service. And I'd say, I don't know, maybe a third to half of those, we've begun to have this discussion, but not every one of them. I mean the level of engagement in those communities varies. Some of them are really engaged and really working closely with us and obviously would be good candidates for some teams to be talking to. Other ones at the community level are just less involved. At this point, they're working on other things besides water and sewer as their top priority.

MR. RONIMUS: Art again. I think the gold -- my opinion, the gold standard for delivery of services has been a piped systems. That seems like it's a universal type of acceptance. And the interest I have here is that setting up another standard for performance within the home, and where you are giving up on optimizing the delivery of piped systems essentially, giving up to whatever the circumstances are for very difficult locations that pipe cannot support and this is quote another hope and I'm kind of curious about if the pipe system and the haul systems have been optimized to a point where they have reached a finite return and this remedy is something that is the last option available, not as good. Maybe more expensive, because many of

these other have been advanced with great hope and they many of the requirements, but financial and O and M and things like that have fallen down. What would make these systems any different in terms of the approach?

MR. GRIFFITH: Yes, I don't really think that we've seen a kind of decentralized system be proposed and tried out that has proven successful. I agree with you that pipes are the gold standard but -- and it's certainly not a case of not being, technologically, being able to provide service. We know that you can build a pipe service anywhere, it's just the matter of having the money to be able to build it in the first place and then that kind of money being in the community long-term to be able to operate it. Those have really proven to be the challenge, it's not a technological problem so much, it's related to just the cost of providing what we've got available to us. So, I don't think we've really seen the kind of individual systems that have been proven to be successful over time. There are systems out there that you can buy off the shelf, but I don't think that they've really shown to be -- work in Alaska. The other problem is that a lot of the products available are just available by components. So, it's up to an individual homeowner to shop around and find something that would work for water treatment and something else for wastewater treatment and try to put it together and just from a, sort of a -- individual household capacity, that's just too much for most

people.

MR. RONIMUS: (Indiscernible - away from microphone) these are important questions. The other approach that you've Stated is it seemed like you want something that's fairly universal. And maybe one-size fits all, but I think we've all come to know that solutions are local. Very dependent on conditioning of the home, the community, and I'm just kind of curious that element of design or operation or ownership? I just can't see a one-size fits all debility -- water treatment, wastewater treatment -- we know how specific those become. So, I'm just kid of curious if this is the generic approach one-size fits all, universal application? Or are you thinking more specific site conditions, home conditions, etcetera?

MR. GRIFFITH: Well again, you're talking about kind of the ideal in terms of a target. It would be wonderful if we came up with a one-size fits all, but I have to agree, I think what we're likely to end with -- and that is -- it's more than that. It's more than one system. And some systems it'll work better in other places than others. And that's part of why ultimately we'd like to move ahead into obviously proposal developments with ideally six teams and then look at field, sorry, prototypes and field-testing with up to three teams because it's part of the expectation is that we may end up with some systems that work in some places best and others that work other places. And I think ultimately, what's going to work is

more than one approach.

MR. ALLEN: Tim Allen. A-L-L-E-N. The criteria for customer's ability pays at $135 a month. That's a nice quantitative figure, you know, engineers like that, they can hit those numbers. Is there any research by either Village Safe Water ANTHC about customer willingness to pay for water and sewer? And how much they're willing -- and it's going to be a range of course -- how much they're willing to pay for that service? You know, in our world here in Anchorage, it's not a discretionary spending. You have to do it. Out there in the villages, it's -- that's discretionary spending so, you know, we have a budget number based on average, a percent of average income. But do we have any feel for what those customers are willing to pay for that service?

MR. GRIFFITH: Uh-huh. (Affirmative) So the question is about customer willingness and ability to pay for service. And we do have a fair amount of experience with this because we obviously have to look at that every time we decide to fund a centralized system, whether it's pipes or haul. And then we have experience through the RUBA Program and through our remote-maintenance worker program, evaluating how well communities are about to operate and maintain their systems. And how well customers are able to pay their monthly water and sewer bills. And that's really where that five percent of MHI come from. We think that's the breaking point for a lot of homes in rural

Alaska, is somewhere round that number like you say, there are homes that can afford more than that and there are homes that can't afford five percent of their household income based on, you know, what that income is. But it -- our experience is that when utility's centralized systems charge more than that -- much more than that five percent, it becomes a real challenge for those homeowners to pay it. And when they can keep their price under that, it's a lot easier for people to afford it. So, you know, that number is actually quite high compared to Anchorage or the Lower 48. It's pretty much unheard of for homes to pay that much for water and sewer service elsewhere, but it seems to be a good estimate of what's affordable in rural Alaskans.

MR. RONIMUS: (Indiscernible - away from microphone) pester you with these things here. One of the nice things about pipe systems, at least in rural Alaska and here in Anchorage is literally unlimited use of water and wastewater. Doesn't matter, household income, it doesn't matter the population in the home, uses in the home, how much water you use. But when it comes to these haul systems and or on-site systems, the capability of use is dras -- is fundamentally paired with abilities to -- of money and hauling and so forth. So it's a dramatic change in how homes would provide service to themselves as to a community product. So it's going to be limited by money or conditions or circumstances very different than what we have on a pipe system. I'm kind of curious, you could put this in a

home and it can be abandoned the next day. I mean, it literally, those kind of investments could go to not -- and public health benefits not be realized. I'm kind of curious how that demand changes the design? At least the philosophy approach.

MR. GRIFFITH: Uh-huh. (Affirmative) Well, obviously, you know, you can imagine all kinds of systems and some of which would, like you say, potentially be abandoned the day we install it. So, that kind of system wouldn't be one that we want to move forward with very far. The idea that use is necessarily directly related to cost really depends on the system. A system that utilizes recycling to a greater extent, there may be a less direct relationship. But, you know, the best example of where a use is directly proportional to cost, obviously is a system where you're paying for every gallon that's hauled in and every gallon that's hauled out. But if we got a system where, you know, the electrical cost, let's say, is nominal for the cost of recycling or something when -- then you can begin to sort of delink that direct relationship with use and cost. And obviously a system that's able to achieve that to a greater extent is preferred. So, I think, you know, you're absolutely right. I can well imagine a system that we see decreased use because of increase cost. And we're trying to overcome that to the greatest extent possible through reuse, recycling and minimization.

MR. TSIGONIS: That is a great concept. The reuse concept and I don't think anyone would have a problem with reusing water for toilet flushing. But when it comes to your secondary goals of clothes washing and showers, I imagine what may happen, teams go out and they interview the end users and the end users say, yes, I'll reuse water for my toilet, but that's it. I'm not going to -- that's yucky, I'm not going to reuse that for anything for my clothes or showers. So then that kind of puts another constraint on us. You know, I personally have drank recycled water, sewage effluent, down in California at the L.A. -- at this huge treatment plant and I had high confidence that it was -- it met the drinking water standards, no problem. But when you're in an individual home and you, the homeowner, who actually knows very little to nothing about wastewater treatment or drinking water treatment, are expected to operate or just at least oversee your system, you're confidence level is not going to be very high I imagine. So what happens to the project when the end users say to all the teams forget it, I'm not using that treated effluent?

MR. GRIFFITH: Well that's kind of the whole challenge here is to what extent can water be reused and to what extent do we believe and can we be able to demonstrate that people will accept that kind of reuse? And like you say, there's kind of some easy things we think we could achieve, things like toilet flushing. And there's probably some things that we don't have

much hope of achieving like, you know reusing toilet water and treating it and asking people to drink it. Okay, so there's kind of two extremes there. Something we think we can easily achieve and something we probably think is a bridge too far no matter what. But there's a lot of things in between. You know, there are recycling technologies out there where people are using recycled water from their shower only for their own shower. And you know, people sit in a bathtub for an hour and essentially use the same water. Would they be willing to do the same thing with their shower water? That's the kind things that, you know, we would like people to take a look at. What are the things in between the easy to achieve reuse and the impossible to achieve reuse? Are there things in between that can make an approach like this work? And how do you work with end users to determine what they're willing to try -- and what -- they're just not going to be able to do? Even with some education and some input into the development of the approach. So, you know, I can't tell you what's possible. I can tell you what's out there and we've seen some of it in use in other places and people seem to be okay with it. But whether it will work here in Alaska, that's what we're out to find out.

MR. BARON: Hi. Yes, it's Kilby Baron. I guess I got -- first comment on the reuse. I think it's going to be interesting for sure, besides the toilet though. I would wonder about the reuse and how many times do you reuse it? And how do

you tell what water is being reused three times? What water is being reused eight times? That's -- you know, there's a lot of technology I guess that might help you with that, but that will be investigated. The question I did have though, back to the scope, and the size of the market here, the 6,000 homes perhaps and as I'm listening to things, I'm thinking about the operation and maintenance cost of existing systems. And then the -- let's say abandonment or the homeowners that aren't up keeping with their costs and stuff, so the market might be a lot bigger here because if we, through this study, can find some good in-home technologies, we can retrofit houses that have already achieved systems but they're not really being utilized. And I think you'd get a lot of health benefits obviously from that.

MR. GRIFFITH: Yes, I agree, we definitely see that as a potential market or application of systems that could be developed, are some of the homes that are -- at one point had service maybe don't at this point for some reason or maybe can't maintain that system affordably -- that service affordably. So, I think it's bigger than the 6,000 homes.

MR. ALLEN: Tim Allen again. Cowater. Bill, rather than have each one of these different teams run out and try to survey and assess the acceptability of recycled water, and we're each going to have different approaches, different constructive survey and statistical analysis, etcetera, etcetera -- and of course the answer is going to be full acceptance of whatever

recycling program we propose. Why isn't the State doing that ahead of time? Rather than have four or five different companies out there proving that recycled water, is fully acceptable to the population it's going to be imposed upon.

MR. GRIFFITH: Well, for -- one answer to that is just that we don't know the specific kinds of approaches that might be developed. Again, you know, we kind of have pretty good sense of what we think people would readily accept and what they wouldn't accept, but there's an awful lot of grey area in between and we want to see what teams come up with. But ultimately, they're going to have to be able to demonstrate to us that people can accept it and will use it. And that's obviously a big part of the field-testing phase, but even prior to that we'd be looking to see how you've incorporated input from communities and individuals, and those that really seem to have a good handle on how top do that and how to do it effectively and have team members who have demonstrated that they have that kind of experience. We're going to score higher. But, we just don't think there's any way to say this is the kind of recycling that we're going to come up with. I think there's such a wide variety of ways that that could happen. That can't really do it ahead of time. We do see that it's happening around the world in different places in different ways, so you know, people are accepting it. But, I just don't know what kind of a combination of technologies people might come up with for

Alaska.

MR. ALLEN: Well the technology will certainly vary, but the output of the recycled water has to be some kind of a numeric standard.

MR. GRIFFITH: Well that standard will differ depending on the use though, I mean what you're going want to have for quality for hand washing is going to be different than a toilet.

MR. RONIMUS: I promise this will be the last one, kind of a clencher maybe. But the measure of success for something of this magnitude, I'm curious whether you'd be thinking epidemiologic or other public health evidence that you're succeeding and accomplishing the public health mission that you say is part of the objective here, whether its hand washing or water use or infectious diseases. I'm kind of curious about the longer-term prospect of this and how this might be incorporated in the program?

MR. GRIFFITH: Well, it's definitely part of what we're looking at. Obviously, the bottom line is that we want to achieve improved health from the provision of running water and sewer. I mean that's kind of the whole purpose of this. And ultimately want to see whatever kind of systems we may develop be part of future health studies. Just like we have been able to look at pipes service versus hauled service versus no service with just a washateria. We -- that's part of the ultimate goal and what we'd expect to see.

MS. KEISER: Jan Keiser. You must have reams of research and data reports and status reports and documentation to lessons learned and best practices and data going back decades. Do you have some kind of a bibliography that you can make available on the website so we just know what's available so we don't have to sort of start from scratch in collecting that stuff? I think a thorough literature review would be important to understand what the status is and where you've been and what you've been thinking about the last number of years.

MR. GRIFFITH: Yes, actually we've been working with Arctic Research Commission. They've been trying to put together kind of retrospective of different technologies that have been tried and what some of the experiences with that and I know they're working on getting that made available to us so we can post it on the project website. And we're still hoping to do that and -- prior to the November deadline for the project submittals.

MR. WILSON: Dave Wilson. Just a couple quick questions. The 6,000 homes that you refer to, geographically, are they in the lower Yukon-Kuskokwim Delta primarily, or the Arctic Slope, the Kobuk Valley, I mean, where -- what I mean, what about the Alaska Peninsula? I'm just kind of curious.

MR. GRIFFITH: Well, they're all over is the answer. I mean, there's not just one place. But, like I said, the majority of them I would guess well over 50 percent are either

in the Yukon-Kuskokwim Delta or in the Interior villages. I don't have the exact number, but again, you know, those villages that don't have centralized systems, those are identified on the project website so you can get a look at where those are. But there are un-served -- there's lots of un-served homes in communities with centralized systems. Not every home is hooked up where there s a pipe system or haul system. So, there's homes everywhere, but obviously the majority are in communities that don't have service and those communities you can see a list of them on the project website. And most of them are in YK Delta or in the Interior.

MR. WILSON: All right. There's a significant variation in the logistical challenges depending on the where the places are, especially operating temperatures. And there was a young lady up here that asked earlier about consistent availability of electricity and I know that that varies significantly depending on the community. Is that an assumption that there will be a reliable source of electricity for a certain demand?

MR. GRIFFITH: Yes, well it certainly is a requirement that -- and an expectation that the home will have electrical service. But, I mean as you point out, some of the consistency of that service does vary from community to community, so you have to factor that in to ultimately the design and maybe some of the electrical protections that incorporate into your approach. But we do expect that we're not going to be providing

service to any homes that lack electrical service.

MR. WILSON: Okay, just a follow up on that. I understand that there are communities that are supposed to, and probably on your records have reliable, electrical service, but in reality, that just doesn't exist. And so if you have a system that depends on that reliability, there's going to be predictably a lot of failures. And as you mentioned earlier the -- be able to move on from a freeze thaw standpoint is going to be a significant factor. The other question I have is more trend I guess, there is a significant trend for some of these communities to change and move. The price of heating oil is pushing 10 bucks a gallon in a lot of places. It's causing a lot of members of the smaller communities to move to the bigger ones. The size and the area around Bethel, I mean, not to exert community, it's just a fraction of what they were years ago. Anyway, I believe that there are communities that we're looking at now that may not be you know, much more than just a remit in a few years because it costs a living, transportation, everything is just going through the roof. And then there is other communities that are growing really because of influx, commerce, so on and so forth, specifically the chain. Is that something that's being considered?

MR. GRIFFITH: Well, I don't know specifically how we're considering it. We're certainly aware of that as well, we've seen that kind of population shifting going on too. And I agree

it's very hard to put your finger on which communities are going to be around and sort of thriving you know decades from now. And there's a lot changes going along, a lot of people moving, whole communities looking at relocating. So, I guess we're just aware of that and sort of watching it, but I don't know that we specifically that we've incorporated that consideration into our approach.

MS. KEISER: It would be very helpful if we could get a list of the sign-ins, the copy of the sign in sheet or something on the website as soon as possible rather than 10 days or so you're going to take to respond to written questions so that we can continue our team building process.

MR. GRIFFITH: Uh-huh. (Affirmative)

MS. KEISER: Thank you.

MR. GRIFFITH: And we can do that, and I think we had asked that people that call in -- would you like them to email you?

MS. LOVE-HESTNES: Yes please, those on the line, if you could email your participation, I'd appreciate that. This is Sonja Love-Hestnes.

MR. GRIFFITH: And we'll make that available. Any final questions? Phone?

MS. SHIRLEY: Jacqueline Shirley, Zender Environmental. So, VSW -- you guys are in like really close partnership with other State entities, because to address, you know like energy

costs and the electricity reliability. You know, right now I'm in middle of a compost toilet project in Chefornak. Chefornak will never qualify for a pot water system because of the quantity and the quality of the ground water. The -- that village will never be on any list. They're no even on the bottom of a list. And you know, there was a great composting system that, you know, that we tested out there. However, you know, when you're talking about 68 cents a kilowatt-hour to keep that composting unit at 55 degrees for it to work, when in rural Alaska we don't have basements because of the permafrost, in our land we build on stilts, to you know -- I mean it -- you know, it from, you know, $135 electricity bill to 600 and so of course my project had to reimburse those homeowners, I mean, that was crazy cost. You know -- you know, 68 cents a kilowatt-hour is, you know, we need to be sure and have our P -- the PPC -- E Program -- the other State agencies involved. The electricity, wow, you know -- and they're so used to it, you know. The electricity goes down because it's a diesel generated power system that they have. Their electricity goes out three or four times a day. And that's normal to them. So, they might not even realize if you go say, well yes -- you know, but when you have a compost in the system, all of a sudden those -- you know, because the fans quit working and then, you know, the whole household was -- smelled liked compost toilet, which was very, very disheartening to the homeowners. Poor things. But, yes,

these -- hopefully some of the engineers who are in here -- these are a lot of variable and factors. And I hope that the State does put the resources together, you know, in a timely fashion with all these sources, you know, because there is so many designs factors and so many considerations, you know. The capacity of the homeowner, the willingness of the homeowner, the town meetings, the community buy-in, how much it costs for -- just for, you know, one hour of electricity, you know. And how -- the freeze and thaw, those Canadians who designed the box to keep my compost unit itself, because it was a remote compost unit. They thought they were doing a good job, you know, they're from an arctic country too, you know, Canada. They triple insulated that box. They designed that box specifically -- oh, we're going to design you a perfect arctic box. Well, we're even going to put heating tape around that thing. That's where the electricity went up to 600 bucks a month. But, wow, there's a lot of -- and you know, you -- we've been around a long time doing this Bill.

MR. GRIFFITH: Uh-huh. (Affirmative)

MS. SHIRLEY: You know. And these, you know, so there is a lot of considerations and the points that you gentlemen and ladies have brought up here today are very true and there's a lot of backdoor things and it is different working with Tribal communities here in Alaska -- rural Alaska. There's a cultural, it's -- ways we think about things to that need to be addressed

and how we think about how a man and a woman manage their household. You know, how -- they have pride and responsibility that they feel too. You know, you go in and tell them that what they're doing now is not good enough for them. That's already, you know, putting something on their head and heart. What you're doing now is not good enough for your public health, for your family. That's what we're saying to them. So already there's that step right -- there's that we're telling them. From the very get-go. Before we design anything, before we even help them. What you're doing right now is not good enough. But I thank you all for, just by your questions and your comments, I could tell that maybe it'll be okay -- it'll work and I thank you all. Quyana.

MR. RONIMUS: Sorry. Question of liability being that you're in the home and the risks of potentially recycling water and being in contact with used water. I was kind of curious on how the State would approach indemnifying the systems in ways that it will not be the subject of some litigation or liability that it caused an illness in this household because of something happening due to the -- this unit being in service or in place or malfunctioning in some other way? So, I'm kind of curious how that might be handled?

MR. GRIFFITH: I don't have the answer to that right now. I'll -- maybe I've reach that point on some of the questions. I -- we don't know yet. That's obviously something we'll have to

think about.

MR. ALLEN: There's a huge a question in Canada right now today, there's a First Nations Villages suing over water quality and they sued the Federal government because that is who.....

MR. GRIFFITH: That's who provides the service.

MR. ALLEN: .....and the companies that are -- that have offered to come in and look at their water treatment situation have said, well we want to be indemnified against being sued by First Nations. And the Federal government can't, or isn't, able to -- (Indiscernible - away from microphone)

MR. GRIFFITH: Not many.

MS. LOVE-HESTNES: Any other questions either online or in the room? Well I knew this was going to be a challenge, but I have new respect for the project. It's definitely going to be a challenge. Thank you Bill, good job. Just as a reminder, if you have not signed in, there is the sign up sheets at the back of the room outside. And, I do want to say if you leave this meeting and you have another question, you have until tomorrow close of business five o'clock to be included with these questions and answers. And these will be online along with the transcription as an addendum. Those who registered will be notified. Again, I recommend that you register the RFP with me. If you have any additional questions after this deadline, please direct those in writing to me. Please don't contact Bill. He's only going to refer you to me.

MR. GRIFFITH: Nobody's calling me.

MS. LOVE-HESTNES: Okay. The next set of questions will be due by October ninth for the next Pre-proposal meeting, which is scheduled for October 16th. Please check online prior to that meeting, or register. And if there's any addendums, I will provide those as notification. Otherwise, thank you very much for your participation. It was very interesting and I can see we have a challenge. Thank you.

(Off record at 11:05 a.m.)

TRANSCRIBER'S CERTIFICATE

I, Natalie Gil, hereby certify that the foregoing pages numbered 3 through 72 are a true, accurate and complete transcript of proceedings of Alaska Water and Sewer Challenge Pre-proposal Conference for the Alaska Department of Environmental Conservation, held September 17, 2013, in Anchorage, Alaska, transcribed by me from a copy of the electronic sound recording to the best of my knowledge and ability.

_____ _____

Date Natalie Gil