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ISSUING OFFICE:

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Division of Administrative Services
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RFP 2013-1800-1654

DATE ADDENDUM #2 ISSUED: October 10, 2013

**RFP TITLE:
ALASKA WATER AND SEWER CHALLENGE**

STATEMENT OF QUALIFICATIONS DUE November 15, 2013; 1:30 p.m. Alaska Times

Offerors are not required to return this form.

The purpose Addendum #2:

- To provide the answers to questions compiled for Pre-Proposal Conference #1
- To provide the transcript from Pre-Proposal Conference #1
- To provide the attendees sign in list from Pre-Proposal Conference #1
- To provide the Pre-Proposal Conference #2 information and registration form (not mandatory)

Question #1:

"Thanks for this effort. My simple answer is -haul the water to the house. Each house has its own tank and pump. They are ubiquitous in Fairbanks and it could work in villages, with at least one central water source. The tone of the press release we got was that hauling was not desirable. I think this is unfair, it's really piping that has the bad name; many failures. Are there really equally as many for a simple haul/pump, storage/pump system?"

- Water and sewer haul systems have been installed in a number of villages over the past twenty years, so at this point we have a good deal of experience with this approach. These systems are less expensive to construct than piped systems, but they are by no means inexpensive since they still require a water treatment plant and sewage lagoon, in addition to road and access improvements. Also, the operating costs are typically much higher for the home owner than piped service, which leads to severe water use conservation in the home, which in turn negates most of the health benefits associated with running water and sewer.

The rate of “failure,” if homes without service are counted by the day, are comparable for piped systems and haul systems. The most common type of piped system failure is a loss of service to a section of the community due to a broken or frozen pipe, or a key piece of equipment, such as a lift station, pump or heat exchanger. Once a repair can be completed, the service is restored. The most common type of haul system failure is for equipment to stop working in an individual home. Repairs to such equipment often take much longer than those to a community system.

Question #2:

As I was reading the RFP, I was confused by the terms SOQ and proposal. It seems that the terms SOQ and proposal seemed to be used interchangeably for phase 1. However, for phase 2, the term proposal is used to reference an entirely separate document. See page 4 as an example. The phases 1 & 2 descriptions state that proposal development will occur during phase 2, but the deadline for proposals on page 5 states Nov. 15. Isn't that phase 1? Can you please provide some clarification?

First, the proposal described in sections 5 (beginning on page 21) & 6 is actually the SOQ that is due by Nov. 15th. Second, is there any available information on the phase 2 proposal?

- This is correct – the term “proposal” is used for submittals in both Phases 1 and 2.

In Phase I, the “Request for Proposals” is a request for the formation of teams, and the “proposal” being requested is a document (also referred to a “Statement of Qualifications”) which provides information about the team members and how the team would approach this project.

In Phase 2, the state will contract with up to six of the top scoring teams to prepare written proposals. The proposals in Phase 2 will describe the systems being proposed by each team, and include information about how well the systems are able to meet specific performance targets.

Question #3:

Can a university-based team participate?

- A university, state or government agency may participate on RFP 2013-1800-1654 Alaska Water and Sewer Challenge.

Question #4:

Will there be a remote-conferencing possibility for the 1st meeting or should we plan on coming to Anchorage?

- Addendum #1 Pre-Proposal Conference Information provides this information.

Question #5:

Is this limited to American firms? Can potential bidders from other countries bid?

- Potential bidders from other countries may submit a proposal per RFP 2013-1800-1654 Alaska Water and Sewer Challenge. Refer to section 3.03, Certification – Foreign Contracting, which references bidders from other countries.

Question #6:

Is there a financial award being offered for a successful proposal?

- Not in Phase 1. As stated in Section 3.01, “the state will not pay any cost associated with the preparation, submittal, presentation, or evaluation of any Statement of Qualification in response to this RFP.” Subsequent phases of the project will include funding. Please refer to Section 3.01, which goes on to state “Under the second phase of the project, up to six (6) of the most qualified teams selected in the first phase will be funded to prepare proposals for innovative and affordable water and sewer systems for homes in rural Alaska. In the third phase, up to three (3) of the teams with the best proposals developed in the second phase will be selected and funded to develop prototypes and conduct

laboratory testing of the systems. In the fourth and fifth phases, teams with prototypes, that best demonstrate performance target outcomes, will be selected and funded for field system development, testing, and refinements.”

Additional sections of RFP 2013-1800-1654 Alaska Water and Sewer Challenge also refer to funding. Refer to Purpose, Background, Section Three Project Scope, Work Locations and Deliverables, other parts of Section 3.01 Project Scope, Phases 2-5, and 3.04 Deliverables.

Question #7:

Does registering for the RFP under one company name prohibit you from being on a team under another entity?

- No – Registering for the RFP will only provide the Procurement Officer the information needed to send notifications of any Amendments or Addendums to the RFP.

Question #8:

Page 6 of the RFP contains a proposed schedule contract term and work schedule. Our company is set up for rapid prototyping and testing. Can VSW accommodate an accelerated schedule for teams that move ahead quickly?

- Yes, in Phases 3 and 4, but not in Phases 1 or 2. A potential for an accelerated schedule exists for prototype and field testing phases (Phases 3 and 4), since these could proceed independently of other teams. Phases 1 and 2 will require the state to evaluate all statements of qualifications and proposals, respectively, before the next phase can begin.

Question #9:

The last bullet on page 10 of the RFP states, “Any wastewater not recycled will be collected in a holding tank, hauled away, and disposed of in a permitted facility.” Will alternatives to this method of off-site disposal be considered where possible and appropriate? One such alternative might be to treat and dispose onsite.

- Yes – but many home sites won’t allow conventional onsite treatment and disposal because of soils, permafrost, high water tables, etc. Although the operational cost of a mechanical/biological onsite treatment and disposal system could be cost-prohibitive, this approach has not been ruled out.

Question #10:

When considering the many different site conditions encountered between villages and even within some villages, it is unlikely that one WTP and one STP design will handle all site conditions well. What if a team develops more than one WTP (water treatment plant) or more than one STP (sewage treatment plant) proposal in Phase 2? Would multiple proposed systems be considered?

- No. Teams selected in Phase 1 will be funded to prepare a proposal for a single system. Some systems may be more adaptable to different conditions than others, and these features should be highlighted in the Phase 2 proposal.

Question #11:

For a company that has design and fabrication capabilities, would it be acceptable for that company to lead or be a joint venture partner on a team AND be a subcontractor fabricator for other teams?

- This could potentially be allowed, if the company is not involved as a fabricator until Phase 3, Prototype Development and Pilot Testing. The company would not be permitted to play a role as a lead or a joint venture partner on more than one team in Phase 1 and 2. In Phase 3, the company’s role would be limited to fabrication and supply for a different team.

Question #12:

The terms "SOQ" and "proposal" are used interchangeably for phase 1. However, the term "proposal" is used to reference an entirely separate document for phase 2. See page 4 as an example. Please clarify that the proposal described in section 5 (beginning on page 21) and section 6 is actually the SOQ that is due by Nov. 15th.

- See response to Question #2.

Question #13.

When will additional information be made available on the Phase 2 proposal?

- Additional information about performance targets and other elements of Phase 2 will be made available after teams are selected at end of Phase 1.

Question #14.

Is any information yet available for participants interested in attending the pre-proposal conference 1 & 2 by internet or phone i.e. what program will be used for virtual attendees?

- Addendum #1 Pre-Proposal Conference Information provides this information.

Question #15.

The cost of electricity assumption is give at \$0.23 per KWH. This figure is fine for more developed areas such as Bethel but the villages such as Kwigillingok and Kasigluk are paying >\$0.60 per KWH. Given the impact the cost of electricity will have on the operating cost, should a more representative assumption be used? Maybe a range of costs is appropriate?

- This rate is based on information included in the *Statistical Report of the Power Cost Equalization (PCE) Program*, published April 2012. The reports states that the average pre-PCE residential rate across all communities was 57.13 cents/kWh, and the average effective rate after PCE was 22.92 cents/kWh.

Performance targets and related assumptions, including electricity costs, are subject to change and may be amended prior to use in developing contracts for use in Phase 2 – Development of Proposals. The proposed targets and related assumptions are being provided at this time in order for teams to understand the next phase of this project.

As noted in Section 5.01 Introduction, the response to this solicitation should contain information about the structure and composition of the team. We are NOT seeking proposals for water and sewer technology at this stage.

Question #16.

The number of occupants assumption is given as averaging 4. Designing a system which supports only the average means that upwards of 50% of the users will be dissatisfied or under served. Should this assumption be increased to encompass the upper quartile of occupants? A reasonable number is 7 which will increase the total water usage to 105 gallons per day.

- See second part of response to Question #15, above.

Further, this is a valid point, and will be taken into consideration in Phase 2, when performance targets and related assumptions are finalized. However, we expect that some performance targets may be difficult to achieve, while others may be exceeded. We will also favor systems that can perform better. For instance, a system that can support seven occupants for the targeted monthly cost of operation would obviously be preferred over one that could only support four occupants for the same monthly operating cost.

Question #17.

The assumption for routine maintenance and repair is given at \$40/month including a water testing fee. Is this per household or at the village level and is this included in or in addition to the operating cost assumption of \$135 /month? (The total operating cost becomes \$175 per month if combined)

- The \$40/month is the assumed cost of membership in a local co-op, and would pay for all routine maintenance and repair services, including minor parts and scheduled water testing. This cost should be included in the \$135/month targeted total monthly operating cost. Excluding the \$40/month for co-op costs, all other monthly costs should not exceed \$95/month. These other costs include electricity, diesel fuel for heating, treated water, and sewage hauling.

Question #18.

Does the capital cost target \$160,000 per home comprehend community level infrastructure required such as boardwalk or a central waste water processing facility?

- No – the cost target of \$160,000 per home is only for improvements at the home. Just as with other targets, systems which are “better” than the target (less expensive systems, in this case), would be evaluated more favorably.

Question #19.

Page 9/55: “many communities cannot afford.....haul systems”. Is there a source for this generalization?

- Source is primarily anecdotal, based on discussions with villages that are currently operating haul systems, with Rural Utility Business Advisors who provide financial management assistance to villages, and with rural residents served by haul systems.

Isn't there some expectation for reliance on haul systems within the RFP for hauling water to the home and hauling wastewater away to a permitted disposal site?

- Yes – there is an expectation that some teams may incorporate a community haul system of some kind into their approach. Section 2, Background, of the RFP includes an assumption that “any wastewater not recycled will be collected in a holding tank, hauled away, and disposed of in a permitted facility.” The section on performance targets in Section 3.04, Deliverables, Phase 2: Proposal Development, states that teams should assume that a community hauling service is available, and any wastewater not recycled will be collected in a holding tank, hauled away, and disposed of in a permitted facility.
- Also, as explained in the response to Question #9, another acceptable approach would be to treat and dispose of wastewater onsite, and the RFP will be amended to reflect this option.

Question #20.

Page 10/55 :“ assumptions” section; first bullet; For this technology to be applied later in a multiunit structure, would each housing unit having this technology or the building? This matters due to “up scaling potential” the technology must have; more modules or up sizing, etc. It also relates to how the housing unit must obtain water/treat wastewater as a co-operative unit.

- In most cases, we expect systems will be developed and scaled for single homes. However, some systems will be more easily scaled up to serve more housing units, and others will be more difficult to scale up. Assumption is that most systems would work best if they are scaled for a specific number of housing units and that number doesn't change significantly.

Question #21.

Page 10/55. Please discuss the “average household size criteria of 4” ; using census 2010 data, a range of household sizes and incomes are evident in Alaska, from 1 to 10 persons per household and similar range with

the MHI per home, an “average value” is not sufficient to describe the range of household size application (design, engineering or costs to the household).

- Correct – These numbers are typical for an Alaska village, but there are obviously places where the numbers are different. These are the numbers we are projecting for use for the second phase of the project for the purpose of ensuring that every team is using the same assumptions.

Also, see the response to Question #16, above.

Question #22.

Page 10/55. Drinking water for public water systems is regulated primarily by EPA SDWA. Water from non EPA regulated systems is typically regulated by the State or municipal governments. To what level of safety or drinking water standard is raw water to be treated to as “raw or untreated water” is brought into the house? Will the State develop regulations which will define and regulate the quality and safety of household treatment devices as this RFP describes?

- This issue is still being explored, but individual, household treatment systems would not be regulated by the same state agency that regulates public drinking water systems. Household treatment systems developed through this project may be subject to requirements of the state plumbing code.

For any water used for drinking, requirements included in the EPA Safe Drinking Water Act should be applied. Water used for purposes other than drinking won't necessarily be subject to the same requirements.

Question #23.

A similar question, will this “system and its performance” be certified by the state for use by other agencies and for the commercial sector (mortgage or VA financing)?

- Yes – that is our intention.

Question #24.

Project teams can “engineer” a system for a wide range of treatment processes, but the difficulty is to achieve a consistent goal or quality. Most treatment systems are specific to a local water quality. More discussion of this feature as requested in the RFP to clarify how universal the treatment process must perform. Drinking water standards must be applied for public health and liability reasons. Is the state prepared to regulate this household's water quality?

- We agree – these are challenging issues, and the choice of whether to treat raw water, or require treated water to be brought into the home, will be made by individual teams. We anticipate that some teams will want to consider bringing only treated water into the home, and then treating graywater for re-uses other than drinking. Other teams may decide to treat local raw water in the home as part of their approach. Note that a local co-op will be an essential element of many systems, since a co-op could provide important testing services.

Question #25.

Page 10/55. Is it the intent that each household be supplied with a drinking water treatment device (treats any source of raw water supplied) even if treated water is available from the community watering point? Can the treatment system be designed to a specific local source which might be consistently available? Is ice and snow a raw water source in the winter for purposes of this RFP?

- None of these approaches has been ruled out.

See answer to related Question #24.

Question #26.

Page 10/55. For water reused in the home after initial use (say collected washing machine water), to what standard is this utility water to meet for re-use if incidental consumption (later use to shower) or contact (bath) takes place? What water quality indices are to be tested for or to what standard of safety is to be met? There are significant risks to human health when wastewater is reused that comes in contact with people. Would you give an infant a bath in this “utility water”? No treatment process is 100% effective or reliable. Also, would there be restrictions with in the household on types of chemicals used for washing? Would cloth diapers be permitted in a clothes washer when this water is to be treated for reuse?

- These questions get at the heart of some of the challenges with decentralized water and wastewater systems. We would rely on teams to address these questions. We assume that there will be unique operational requirements associated with a team’s approach, such as limiting the use of chemicals in the home. By considering decentralized approaches, we are hoping to incorporate treatment standards from other countries that allow water treatment to different levels for different uses in the home.

Question #27.

Page 10/55. If a community has a washeteria for clothes laundry and showers (include baths) (and approved drinking water), are these conveniences still necessary in the home?

- Ideally, bathing and laundry could be accomplished in the home. However, considering the costs of such “conveniences,” that target may not be achievable for every approach. Therefore, some approaches may incorporate a community facility that provides a laundry and showers.

Question #28.

There is a hierarchy of public health and environmental risks and benefits of drinking water and wastewater treatment, will this RFP elaborate on what is most important and what is a lesser priority?

- We know from health studies that health benefits increase as water use increases in the home, and water use increases when showers and laundry are included. However, from both a health and convenience perspective, toilets and sinks are more important than showers and washing machine hook-ups.

Question #29.

Page 10/55. Water heating covers a wide range of use and purposes. If only for hand/dishwashing is one size, for a bath/washing machine a lot larger. For this RFP, what is envisioned? The range can be from large traditional hot water tanks, whole house on demand, or individual fixture heaters, please discuss how this might be evaluated?

- These are all good points that will need to be considered by teams that are selected in Phase 1 of this project. The target is to have hot water for all these purposes, but each team will need to determine what is achievable with their proposal. The cost of generating hot water will be a major component of the monthly operating cost, so teams should make a selection that meets the needs of the proposed approach with the lowest monthly cost.

Question #30.

Page 10/55. Can drinking water (an approved source) be hauled into the home by the owner or wastewater hauled away by the owner?

- See the response to Question #24.

The use of holding tanks for non recycled wastewater requires additional support of the community, means of hauling, costs, , etc. The availability of this service, frequency, costs etc. are already difficult in remote areas. If an individual house must do this, how will it happen? What about a large sub division or an entire town? Please elaborate on the subject of community services necessary to support individual household systems.

- Wastewater would typically not be hauled away by the occupant, but instead by a community wastewater haul service, at the assumed cost provided in the RFP.

See also the response to the second part of Question #19.

Question #31.

Page 10/55. Is it safe to assume that drinking/cooking water must always be first use and never reliant on any portion of wastewater recycling? How much new or fresh drinking water is assumed to be necessary each day per person? As an absolute standard, this RFP must address the safety of drinking water in strict terms. The safety of drinking water supplied must be assured, while the potential re-use of waste water must be done extremely carefully.

- We anticipate that all drinking and cooking water will be “first use,” but a different approach could be proposed.
- See also the response to Question #24.

Question #32.

Page 10/55. Will a non water carriage toilet device be acceptable for human waste? (this might be an outhouse, composting toilet, bagging toilet, incinerator toilet, etc). The advantage of this method/means is the segregation of waste streams and simplifying wastewater treatment by eliminating “black water” waste streams. Water use is reduced and wastewater volumes are reduced significantly.

- No approach has been ruled out, but an outhouse is not a feasible option for many Alaska villages, since there are not suitable soils available. The other toilets mentioned could be included in a team’s approach. But keep in mind – some of these technologies have been tried and didn’t work over the long term, and in Phase 2, Proposal Development, teams will be asked to explain why a similar approach, if proposed, would work this time.

Question #33.

Will this RFP or DEC be advised/consulted from the affected individuals or communities? Say for instance, will someone be advocating for Stebbins and local solutions. A one size fits all approach will not be effective unless all (local or individual) circumstances and conditions are represented. Household economics, cultural perspective, local geography, etc. will apply always. It is evident some component of traditional water and wastewater planning, design, and O&M is not working as intended; what is it so the results of this RFP succeed and history lessons not repeated.

- Absolutely – rural focus groups, made up of village residents, will be an important part of this project. We will consult and seek input throughout the project. Also, teams are required to incorporate input from potential users throughout their system development process. Finally, one of the reasons that we plan to move forward with more than one team is that we recognize that more than one approach will likely be desirable.

Question #34.

Page 11/55. “easy and feasible to operate, maintain, and repair” is age old goal, but elusive. Many factors for minimizing costs are always at work, and there is a balancing act between costs, complexity, reliability, redundancy, etc. Please elaborate. Individual household systems as discussed in this RFP, are subject to all the usual conditions an “appliance” might experience; overuse, neglect, abuse, rejection, etc. Will this “household” system be gifted or loaned to a home? Will the state subsidize these systems in some way (like the RMW does for PWS)? When is this household system considered **feasible** within a individual house?

- As pointed out, these “age old” goals have proven very difficult to achieve.

For year-round homes that currently don’t have water and sewer service, we are expecting that a large part of the capital cost of installation would come from state and federal funding agencies. However, like centralized systems, an operation and maintenance subsidy is not presently available and will likely be difficult to come by.

Question #35.

Page 15/55, Phase 2. (1) Many of Alaska’s rural homes are substandard in many ways; please describe the minimum structural/safety features a home must have to be eligible for a system; such as foundation, flooding potential, power source, floor area, heating source, household size, etc.

- We expect that household eligibility requirements will remain similar to current requirements. The house must be structurally sound and be located above the flood plain. The electrical connection must be according to code and there must be thermostatically controlled heat. Systems being proposed should require minimal, if any, additional floor space.

Question #36.

Page 15/55 (2). Please expand on how design/construction and O&M costs of the system are evaluated. A accountable method must be established to do this; say comparing first cost (construction) to life cycle costs (homeowner burden) . Which is the emphasis? This is a critical analysis and cannot be simplified.

- O&M costs are more important, since homeowners will be responsible for these. A large part of capital funding is expected to come from state and federal agencies. We agree that a method for evaluating and weighing each type of cost will be needed, but this is still being developed. These are elements of the evaluation for the specific approaches that will be developed in Phase 2. In Phase 1, only the qualifications of the teams will be evaluated.

Question #37.

Page 16/55. The “15 gallons per day of useable water” needs clarification; how is this water apportioned to drinking, cooking, bathing, etc? What is the source of this number and what assumptions were used to make 15 a target/quantative number? If 14 gallons can do the same job, is that more value or if 16 gallons per day can be provided economically is that a better solution? As household sizes vary by an order of 10 (from 1 person to a family of 10), how is this to be accommodated?

- 15 gallons per day is per person. This quantity is a target, as is the cost of operation that is provided. The source of the number is a review of literature and different public health sources.

As discussed in the response to Question #28, there are health benefits associated with increased water use, but there are also additional costs.

After teams are selected in Phase 1, we expect to provide additional details on water use targets.

Question #38.

*Will this “system” be supplied/constructed in existing and **new** homes? New construction in communities without a piped system or functional haul system is ongoing.*

- Potentially all of these categories could be provided with systems developed through this project. The majority of potential homes will be in communities with no piped or haul systems, and will be in existing homes.

Question #39.

What water quality tests must the drinking water or other water uses in the home be tested for? Would every home be tested or might there be diagnostic/alerts which alert the homeowner to problems. “grab sampling” testing may or may not be representative of the safety of the water.

- We concur, and these concerns haven’t all been addressed at this stage of the project. Some of these answers will depend on individual approaches to the problem.

See also the response to Question #24.

Question # 40.

Will cultural and behavioral habits (via public education/training) be considered necessary for these systems to be used effectively? Can hand washing be accomplished using non water based fluids?

- Cultural and behavioral habits are essential considerations, and will be a key part of what we expect each team to incorporate into their approach. Each team is required to include someone with expertise in this area.

Hand washing using non water based fluids has not been ruled out.

Question #41.

If community watering points are assumed to be available, will the home be also fitted with a drinking water treatment device?

- See the response to Question #24.

Question #42.

Putting a tub/shower in an older home requires new space to be made available; is this an option? Should the system be designed to accommodate different in home fixtures? (say no bath and no washing machine)

- Currently, funding is not available for adding floor space, and we don’t expect this requirement to change. A team’s approach should be inclusive enough to accommodate different floor spaces.

See also the response to Question #28.

Question #43.

Can as much outside space be utilized as is necessary for waste water collection, storage etc, as opposed to being housed in the internal envelope of the house? Freeze protection and access to be necessary.

- Yes – this approach would not be ruled out, but soil conditions and any additional operational costs associated with freeze protection must be considered.

Question #44.

Please explain the rationale this RFP makes for “preferring” untreated water being brought into the home as contrasted to getting water from an approved source?

- The referenced statement appears in Section 3.04 Deliverables, under Phase 2 Proposal Development. Note that as stated, this information is subject to change and may be amended prior to use in developing contracts for use in Phase 2.

Systems that can treat raw, local water sources for at least some household uses might allow the use of rainwater, which could eliminate the need to haul a portion of the water used in the home.

On the other hand, hauling water for drinking from a public watering point, which is treated and tested according to regulations, would provide a higher degree of safety.

Please look for subsequent amendments to the RFP to better clarify this issue.

Question #45.

Average MHI of \$2,700/month is not representative of individual households or communities. What does the \$135 month really represent? The variations in income/household size, etc. make for a huge range of variables. As is known about haul systems, optional use is driven by financial means.

- \$2,700 per month is a typical median household income for communities that currently lack water and sewer services to individual homes. \$135 per month is 5% of this income level, which is considered to be the maximum affordable monthly user rate.

See also the responses to Questions #15 and #16.

Question #46.

Some communities pay much more for power and fuel than listed, should the “systems” be modeled for different energy use/costs?

- See responses to Questions #15, #16.

Some homes have no power, or only use wood for heating, how will this be addressed?

- See response to Question #35.

Question #47.

How is the “monthly operating cost” of an individual household unit to be determined? Please elaborate on what is included, as all equipment, filters, motors, energy use, etc. have finite life expectancy/costs based on use, maintenance, severity of conditions, etc.

- Replacement costs for short-lived system components need to be factored in. Parts that are expected to last more than 7 years wouldn't be factored into the operation costs.

Question #48.

A \$40 month fee is provided as a O&M cost to a local co-op. Is this included in the \$135/month or MHI calculations? What is the source of this number?

- Yes – the \$40 per month should be included in the \$135. Source is an estimate of monthly co-op expenses. If your approach can show that \$40 is too high, an analysis should be provided.

See also the response to the Question #17.

Question #49

What is the source of treated water costing \$0.10 /gallon? Is this for self haul or delivered? A piped system can usually provide water to a home for about \$0.01-\$0.02 /gallon. A watering point should provide water for less.

- This is a typical, but by no means a universal cost of treated water which is self-hauled from a community watering point. Some villages charge nothing; some charge less than this amount and some charge more.

See also the last two parts to the response to Question #15.

Question #50.

What is the source of wastewater hauling costing \$0.25/gallon? Is this cost for “sewage” only? Sludge? As compared to a piped system, hauling wastewater is very expensive per unit volumes, on the order of 10 times more expensive.

- This is a typical cost of sewage haul services now being provided in rural villages. Cost is for sewage – not sludge. We agree that hauling sewage is much more expensive than water.

Question #51.

Recycling systems produce their own waste streams; gases, solids, and other liquids. A closed system is not realistic. How are these waste streams to be evaluated on impact to the environment or household? A composting toilet produces large quantities of methane gas; is this a downside?

- These are important considerations and will need to be incorporated into each team’s approach. Please note that some of these issues will not apply to all potential systems, and will be critical to the success of other systems.

Please note as well, as previously mentioned and included in Section 5.01 Introduction, the response to this solicitation should contain information about the structure and composition of the team. We are NOT seeking proposals for water and sewer technology at this stage.

Question #52.

Assuming a wastewater hauling system is available (at \$0.25 gallon more or less) is problematic; what role does this play in the design? Must the household system depend on a service not included in this RFP? If this service does not already exist in the community, what allowances must be factored in? Please elaborate.

- This is a separate issue that we are not asking teams to address. The \$0.25 per gallon for wastewater hauling is part of the O&M consideration for any proposed design, since wastes will be generated and may need to be hauled away. The household system does not need to depend on a haul service, but if it does not, some other means of handling waste must be included.

Question #53.

A family of 4 buying water at 60 gallons per day is \$6/day. If all the waste water is hauled away, another \$15/day or \$630 /month total. Obviously not affordable. An obvious dis-incentive. Another perspective, if \$135/month is spent only on water supply/wastewater hauling, water use is 12.8 Gallons/per day per household.

- Precisely - It isn’t affordable to purchase 100% of the water used in the home each day and pay to haul away 100% of the wastewater produced. This is why we are encouraging re-use to make this amount of water use affordable, at roughly \$135 per month or less.

Question #54.

Question on Section 4. A freeze up may be deliberate or accidental. The issue may be catastrophic or a nuisance. Vulnerability to damage and costs of repair are good evaluation factors. All systems are vulnerable to freezing.

- These are good points that should be taken into account in Phase 2, when the performance targets are finalized and specific system proposals are being evaluated.

Question #55.

Question on section 6. Modularity is certainly desirable to have consistency of O&M. Removing a treatment unit from the household is not likely to be easy, and access from outside to interior components is very risky and intrusive. Please elaborate greater purpose or goal for this features worth. There are many issues with these treatment systems being removed due to power and piping issues, a better suited arrangement might be plug and play components in the house.

- Plug and play is what we had in mind when we referred to removing system components from the home. Outside access would be desirable to inside access.

See also the response to Question #51.

Question #56.

Questions on section 7. What are the requirements of federal and state agencies for funding this kind of individual household system? Are there criteria published now?

- Water used for drinking water (first use) – we do not anticipate will come from recycled processes. We anticipate that first use water will come from treated, approved sources in community, or treated raw water in the home... we have coordinated this RFP with plumbing code office and will continue to work with them to ensure that any proposed systems will be considered for a variance request...

How is the willingness of a household user to accept the treatment unit be measured?

Question #57.

Question on Section 8. The UPC may have some application inside the home, but it is likely very limited or preventative (not allowed) . Please identify how the UPC and State of Alaska codes will apply in the issue of in home raw water treatment quality and use of recycled wastewater for possible human contact/ingestion. This subject of human waste/utility wastewater recycling has very special and demanding criteria to prevent health risks. A variance request to use of the code maybe precedent setting and very risky. Whenever recycled wastewater or raw water treatment is under "code authority" such as a public health agency (DEC), it is strictly regulated to prevent hazards. The UPC is focused on protecting drinking water from being contaminated, especially by human wastes. A system that takes raw water and makes it drinking water is usually regulated under authority of the state, much like what DEC does for public water systems now. Does the National Sanitation Foundation (NSF) or other entity certify processes for making drinking water or recycling wastewater? Please elaborate.

- Teams will decide how to approach these challenges. Please see response to Question #24.

We will continue to work with the state plumbing code office, and other agencies such as the NSF, as this project progresses to address these issues.

Question #58.

Question on section 9. The use of proprietary hardware and materials makes every consumer vulnerable to potential price fixing; reasonable is not my word for it. Higher points would be awarded to a system using generic parts or where there is good competition for parts. If special “systems” are a product of this RFP, the licensing rights or patents should remain with the state.

- We recognize that this is a trade off. Private sector interest and the potential for investment increases when the state does not retain the intellectual property rights. However, as pointed out, this creates the potential for higher prices in the future. Awarding a higher score to systems that utilize generic parts would be one way to address this concern in Phase 2, but this decision hasn’t yet been made.

Question # 59.

Is this “system design” meant to have a commercial product value? To be affordable the \$160,000 cost is not something too many people can afford, only a government or wealthy. Please elaborate.

- As previously noted, we are expecting that a large part of the capital cost of installation would come from state and federal funding agencies. Further, we are interested in finding out whether less expensive systems can be developed, even if it means that the level of service would decrease.

Question #60.

Have State of Alaska public health officials (medical/epidemiology) been consulted on the scope of this RFP?

- Yes – the project steering committee includes a public health program manager in epidemiology, an expert on infectious diseases and health communication, and an environmental health specialist. In addition, several other health professionals continue to be used as advisors for the project.

Question #61.

Would a garbage disposal be prohibited in this system design?

- No – it would not be prohibited.

Question #62.

In section 5.03, please clarify the need for Professional Engineering license. This is a matter for other state agencies and cannot be dedicated unless proper authority is vested within the DEC.

- A professional engineering license is not required. See Section 5.03 Minimum Qualifications / Prior Experience.

Prior to award of a contract, selected teams must hold a valid Alaska business license. Please see Section 6.27 Alaska Business License and Other Required Licenses for more information.

Question #63.

Per section 1.03 the DEC, Division of Water, anticipates funding of upward of \$24,000,000 over the next 10 years to complete the work requested in this proposal. In subsequent documentation (e.g. WasteReuse E-Bulletin) states that only \$1 million is currently available. Is this \$1 million presumed to be the funding described in section 1.03 as “Funding for the first two phases” including only “Phase 1: Formation of Teams and Phase 2: Proposal Development as stated in section 3.04”? If so can you please provide an anticipated budget itemization in order to assist in team development?

- Correct – the \$1 million which is currently available will provide funding only for Phases 1 and 2, Formation of Teams and Proposal Development.

The \$24 million is considered the most that might possibly be provided for the project over a ten year period, but it is not the most realistic estimate.

We are projecting that up to \$3 million might be required to fund Phase 3, Prototype Development and Testing, and another \$3 million might be needed for Phase 4, Field System Development and Testing. The actual amount that will be needed for each team will be determined later the project.

Question #64.

As someone working toward putting together a team to approach this proposal, I am struggling with the concept of proposing a team for a project with unknown budget requirements. As a researcher in academia, I often perform research and development for very small budgets in small teams but this research is often leading edge and takes significant time (3+ years). In my prior career as a engineering consultant, I was part of teams that utilized existing technology in innovative ways to meet clients needs as part of larger teams in short time frames (1 year) at significantly higher cost. I would like to develop the team with adequate resources to tackle this project in an innovative manner that will be capable of providing a robust result but would like to request realistic budget estimates for teams to be funded. Can the state clarify projected project budget targets?

- Your experience as an engineering consultant, working on a team that utilized existing technology in innovative ways to meet client needs in a short time frame, is a better model for how we envision this project.

See also the response to the previous question.

Question #65.

Per section 6.04, "Offerors may only submit one proposal for evaluation." This statement leads to confusion with respect to discussion of subcontractors (section 6.08) and Joint Ventures (section 6.09).

A) *Is a subcontractor considered an "offeror"?*

- Yes, if the subcontractor is a team member.

B) *Are all participants in a "joint venture" team considered "offerors"?*

- Yes, if the joint venture participants are team members.

C) *Example situation and associated question: Could myself as an entity of the University of Alaska Anchorage lead a team of subcontractors, thus making myself an offeror, and support a second team as a subcontractor or joint venture team as a team member and not be considered an offeror?*

- The answer depends on your role on both teams. The same person won't be allowed to be a member of more than one team. The safest approach would be to limit your involvement to a single team.

Question #66.

Can teams include members from state or federal agencies?

- This would not be prohibited.

Questions #67

Why isn't there a DEC or ANTHC team attempting to joint this effort? These organizations house the most experienced staff and history for improving sanitation efforts in rural Alaska.

- Both DEC and ANTHC are represented on the Steering Committee for the project. In this manner, these organizations are sharing their expertise. In addition, a primary objective of this project is to bring new people and ideas into addressing long-term challenges.

Question #68

Are individual DEC or ANTHC staff available to help in this effort (as a technical expert) to all teams?

- In general, DEC staff working in the Village Safe Water Program and ANTHC staff working in the Department of Environmental Health and Engineering are not available as team members or to assist individual teams, since staff from these programs are involved on the project as members of the Steering Committee, which is responsible for evaluation of teams and proposals during the first two phases. This question will continue to be evaluated as the project progresses, particularly after the initial two phases. It may be possible, beginning with Phase 3, for some assistance to be provided by staff from these two programs to all teams simultaneously.

Question #69

It was said at the pre-proposal conference that “any raw water source” might be used or made the “choice” by an home owner for being hauled into the home for treatment; Please expand on the suitability or pre-approval requirements for sources; the variety of treatment options are great; usually dependent on source. Possible contaminants are numerous.

- The intent of this statement was that home owners are free to choose where to get their drinking water. We know that in some villages where treated and tested water is available at a public watering point, some people still choose to get their drinking water from an untreated source, such as a local spring or a river at certain times of the year. This doesn't mean that these sources are “approved,” but only that they may be preferred by some residents.

This project is seeking to develop innovative approaches to providing decentralized water and sewer service in rural Alaska homes. Each approach should identify how safe water and wastewater disposal can be provided in homes for different uses, including drinking, hand washing, toilets, etc. Untreated water is not considered safe for drinking or for washing, so this approach would not be acceptable.

Question #68

It is unfortunate this proposed household system will be so dependent on economic and other conditions to function to it capability. Please expand on this theme; functionality of the system will depend on in household conditions (\$\$, power, number of people, etc.) to work satisfactorily.

- Functionality will depend on a number of different factors, including the cost of operation. It may not be possible for a system to meet every target that is outlined in the RFP, but the cost of operation will be a critical consideration.

Question #69

Will costs of time, gas, snow machine, or other efforts will be considered as a cost burden to the homeowner to haul water or waste water away?

- Homeowners won't be expected to haul their own wastewater. Instead, we are making the assumption that this service will be available for a fee. An assumed wastewater hauling cost has been provided, and will be finalized for Phase 2 of this project. Similarly, the only water hauling cost projected at this time is the price of purchasing water, which is also included in the RFP, and will be finalized for Phase 2. The cost of time, gas, snow machine etc. haven't been included in the assumed cost of operation at this time, but this is under consideration for Phase 2.

Question #70

Will a cluster of homes be considered for pipe extension if the aggregate costs support this, instead of individual systems?

- No – This project is not focused on extending a centralized system, but rather on developing new, decentralized approaches.

Question #71

Will NSF certification be necessary over the long run?

- This question is still being evaluated, and no definitive answer is available at this time.

Question #72

Is it conceivable this “system” could replace existing haul or piped housing units?

- Yes – this is a possibility, depending on how successfully the targets can be met. Some new approaches may turn out to be a better solution than existing, centralized systems for some villages.

Question #73

Innovation is necessary for more efficient operations of existing systems; please elaborate why this is not also a parallel effort to improve delivery of services.

- This is a parallel effort, but we are not seeking solutions through this solicitation. Instead, we are working with technical assistance providers, funding agencies and villages to explore new, innovative and more effective approaches to operation and maintenance.

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