ON-SITE SYSTEMS
TECHNICAL REVIEW BOARD
SUMMARY OF ACTION

October 9, 2002

Members Present: Sharon Minsch, Craig Woolard, PE, Mark Musial, PE, Carol Nesbett, Chris Allard, PE, Joel Neimeyer, PE

Advisory Members: Earl Dotten, AWWA

Staff Present: Jim Cross, PE, Ron Thompson, PE, Sonnet Fleener, Jeff Urbanus, DHHS, Keven Kleweno, PE, ADEC, Jenna Summerville, ADEC, Hallie Stewart, AWWU

Guests: Fred Ripp

Chairperson Sharon Minsch called the meeting to order. A motion to approve the summary of action from September was made, seconded and approved.

Appeal of an Administrative Decision – *Continued*

Last month the board continued an appeal by Mr. Ripp to allow him time to submit information to the department so the setbacks to slope could be reconsidered. Jim provided copies of a letter Mr. Ripp sent to him. The letter stated the techboard "recommended you grant a health authority approval for the single family home". Jim said it was not his recollection and it was not in the minutes that this was the arrangement. His understanding of the board's recommendation was the appeal would be continued with hopes that a new standard could be determined. Mr. Ripp stated the letter also contained the stipulations for the Health Authority, and Jim read "the board stipulated this to be a one time exemption and I was to provide you some proof the new septic system drain field is adequate." Jim said that was not his understanding either. The suggestion was made for the continuance hoping that Mr. Ripp and his engineer would submit data to change the standards. Jim stated he could not make one-time exceptions. He asked Mr. Ripp for an accurate cross-section of the field and it's relationship to the slope to show what existing conditions are and to show how far it is from meeting current requirements. Mr. Ripp also sent a state code from Wisconsin. Craig Woolard said Mr. Ripp was to provide some calculations and get some justification as to why the department should approve the system as it is. Mr. Ripp felt that he had done that in his letter. Craig said engineering calculations were requested to show the system will function properly. It was determined that a stamped engineering report with calculations to show why effluent will not daylight would be appropriate.

A motion was made to postpone the decision for a second month to allow Mr. Ripp further time to provide the information requested. The motion was seconded. Jim stated that he would extend Mr. Ripp's conditional Health Authority until November 15th to allow time to prepare engineering calculations to show his system is adequate. The motion to delay the decision was withdrawn.

A motion to vote that the On-Site program was not arbitrary or capricious was made and seconded. The vote was unanimous. Mr. Ripp's appeal was denied.

Arsenic Presentation

Keven stated the EPA has lowered the federal standard for arsenic in drinking water from 50 ppb down to 10 ppb. This will impact community and non-transient non-community water systems. The state is currently working to modify regulations so all public water systems will have to monitor for arsenic. If arsenic levels are above 10 ppb, they will have to treat. The State is hoping to adopt this policy by December 2005 if they can keep the staff and funding levels at the current rate.

DEC has sent out approximately 641 letters to all Class A water systems throughout the state asking them to take raw water samples for arsenic and return them to the department.

Keven displayed a map showing community water systems with arsenic above 10 ppb year round. Right now, there are 72 Class A wells statewide that are above 10 with 22 of those in the Municipality of Anchorage.

Keven handed out a "plain English fact sheet" and other arsenic information. The first page of the plain English fact sheet explains what community water systems with an arsenic problem of 55 ppb or greater will need to install for treatment. The second handout is a copy of the EPA's implementation guidance for arsenic rules. EPA believes

that centralized treatment is the first and best option for small water systems followed by centrally managed point of use and point of entry treatment devices. Keven found problems with this at the state level. First, point of use and point of entry treatment systems must be owned, controlled and maintained by the public water system owner. Keven said there are several class A water systems in the state that could fall under this regulation where the owner of the water system is not allowed on people's property because they don't like him. The other difficulty is that both point of use and point of entry treatment systems must have mechanical warnings to notify customers of operation failures.

Keven hasn't been able to get anything in writing from the drinking water side of the EPA on the disposal of arsenic treatment devices. There was a verbal conversation with the State of Arizona, who hired a contractor to look at all of their water systems. Arizona is not allowing arsenic treatment devices that have a wastewater discharge because the discharge would be classified as hazardous waste and would have to be disposed of accordingly. If the point of use or point of entry treatment devices are cartridges owned by the water system and there is one to three in each home, the water system owner won't be a conditionally exempt hazardous waste generator, he will have problems disposing of the cartridge. A homeowner of a single-family home in the Municipality may be able to dispose of them through the Municipality of Anchorage's hazardous waste disposal program as long as they don't exceed the yearly limits. Craig said his understanding was that in some cases it could be disposed of in the municipal landfill provided it passes the TCLP test though that is unclear. Anchorage has a hazardous waste disposal program, but arsenic is not just limited to Anchorage. There are numerous problems in places like Fairbanks and Western Alaska. Without class-one landfills, which are blind landfills, under the counter filters for single-family homes can't be disposed of in dumps. They will have to be collected and shipped out of state.

Craig is working on an arsenic speciation project that will help the state. Within the next several weeks staff will collect samples in Anchorage and try to identify types of arsenic we have in the water supply. Joel asked if that was because some types of arsenic are hazardous waste and some are not. Keven answered no, it is due to treatment costs. Craig explained arsenic 3 is the reduced form; arsenic 5 is the oxidized form and arsenic 5 is easier to treat. This is important in determining how to treat for it. The +5 oxidation state is typically easier to remove than arsenic 3. If you have a lot of arsenic 3 you need to know something about the distribution. Craig explained that step number one is to do a bunch of well characterization and get a feel for what kind of arsenic contamination we have and get an understanding of the water chemistry. The long-term goal is to use this information for public and private water systems to recommend technologies because some are going to be better than others depending upon different water qualities.

Craig developed the arsenic speciation method using a liquid chromatograph and the ICP mass spec. They have also been working on a sampling protocol. There are two separate well characterization projects. For one Craig will receive some funding from DHHS and he will combine it with some University money from research to do a study in conjunction with the Health Department to characterize arsenic in West Anchorage wells. For the other he has some money from the University Presidents office to do arsenic sampling. These funds will provide DEC with sampling kits. DEC will provide the labor and sample public water systems in Anchorage and Fairbanks.

There are some technical issues with collecting arsenic samples; they are not necessarily stable when you collect them so determining exactly what you have is more difficult than it might sound. Craig has been working on the sampling protocol. Once the protocol is established, they will sample wells in West Anchorage. When all the data is collected, they will analyze it and get a much better understanding of the basic water quality problem. Jim asked if they were sampling Anchorage and Fairbanks because they were population centers or because that was where the most hits for arsenic were. Keven said yes, because they are population centers and because they are the two areas with the most problems.

Craig said there can be wells with high concentrations of iron, with arsenic, and the treatment methods that you can use with those are different from a system where you have no appreciable iron, with arsenic. The University has a geochemist working with them and she will look at well logs along with water quality data and integrate the data from the public water systems with the private water systems. The goal is to come up with a model of West Anchorage to show what types of formations are problems. That model is the first major research activity. They will start to sample in earnest the end of this month and the first part of next month.

Jim asked Jeff Urbanus, DHHS, if he had collected much data over the last year. Jeff said yes, they had a contractor look at potential contaminants that might show up in wells throughout the Municipality of Anchorage. The two primary contaminants were nitrates and arsenic. DHHS is now doing sampling by mail throughout the Municipality of Anchorage, and he expects that by next year at this time he will have an arsenic and an iron measurement on five percent of the all wells in Anchorage, and on about ten percent of those it will be a full metal spectrum on the ICP mass spec.

Craig said the first step is to gather the information and try to get an understanding of the problem. Second are technology demonstrations. When the EPA passed the last safe drinking water act amendment, they realized it was going to cause problems for small systems so they put money aside for technical assistance centers in rural

states. An EPA Funded program called the Alaska Technical Training and Assistance Center (ATTAC) was the result. We have one of six in the country here in Alaska. It is a partnership of UAA, UAF and UAS. UAS is the lead organization. They do operator training, technology demonstrations are at UAA, and they do some basic research at UAA and UAF. They would like to be in a position to mitigate some of the risk in trying out new technologies. As part of that effort, they became certified as a field-testing organization from another EPA program, the "Environmental Technology Verification" (ETV) program. In this program, they certify technologies. If a technology claims it will remove arsenic from 60 ppb to 10 ppb, they put together a test protocol to verify it can. Becoming a field-testing organization allows them to get more money to do technology demonstrations. A project typically involves a combination of monies from the ETV program, the ATTAC program, and the vendor. There are arsenic removal technologies they would like to evaluate. The list of technologies provided by Keven has not been tried for arsenic removal in Alaska. Some will be appropriate and some will not.

The last component will be Public Education. Jeff Urbanus said DHHS would like to have seminars, or classes, to answer questions from homeowners. Craig said that they do a lot of workshops and presentations as part of ATTAC; Keven added that by April of 2003 arsenic treatment will be covered in sanitary survey classes.

Once Craig's project is done, DEC will generate maps to show what areas have arsenic problems, and the state will then notify public water systems and ask them to start sampling.

Keven said that by the first of January or February they should have enough information to put together a meaningful presentation about where the arsenic problems are.

NPDES Code Review

Jim said that the NPDES Code has been approved by the Planning and Zoning board and is scheduled for introduction to the assembly next week and will be voted on October 29. The Board's duties will officially change after that. NPDES appeals will come in front of the Board, and if NPDES inspection standards change, those will come to the Board for review and approval. Jim has a plan review manual containing some standard details of the best management practices that are used within the Municipality of Anchorage. He plans to expand that library of approved details and bmp's, and when that is finished, they will bring it in front of the board.

Ron Thompson said there would be training available to the Tech Board on NPDES issues before the Board was required to hear any type of appeal or NPDES issue. Jim said it might be good for him to spend some time in the next few meetings going over the current plan review manual for NPDES.

Code Changes due to On-Site move from DHHS

Jim handed out reference copies of code changes; they are not final copies. When he gets the last changes, he will have a meeting with Ron Thompson and Jewel Jones to discuss them, and when he has a final version of the code he will provide copies to the Tech Board.

AWWA Update

Earl passed out diagrams showing how surface seals work to prevent contamination in wells with shallow bedrock and explained them. He also said that if anyone ever had technical questions they were welcome to call him, or any of the AWWA board members.

Well Code

Jim will send the marked up copy of the well code to everyone in a PDF format so it can be reviewed prior to next month's meeting. Sharon said the next meeting should start with the well code.

The meeting was adjourned.