



# ON-SITE SYSTEMS TECHNICAL REVIEW BOARD

## SUMMARY OF ACTION



**February 12, 2003**

**Members Present:** Sharon Minsch, Chair, Mark Musial, PE, Craig Woolard, PE, Joel Neimeyer, PE

**Staff Present:** Jim Cross, PE, Hallie Stewart, AWWU, Jeff Urbanus, DHH  
Abby McQueen, DEC, Steve Morris, PE, DHHS

**Advisory Members:** Earl Dotten, AWWA

**Guests:** Dave Beveridge, PE, Dan Young, Bill Lawrence

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

### **NPDES Code Update**

Jim reported the NPDES code was passed after some controversy due to a land clearing amendment that was attached. The new code makes the On-Site Systems Technical Review Board the quasi-judicial board that will hear appeals involving the NPDES program. As changes are made to handouts for the program, they will come before the Tech Board for review and approval. The land-clearing portion of the code requires that any mechanized clearing on properties greater than two acres apply for a land-clearing permit. With the permit, projects are reviewed to ensure best management practices are being used to treat storm water runoff because they are removing native vegetation from the property. The original NPDES requirement was to get a building permit or a fill or grading permit. The new code authorizes an inspection fee, which is important for the On-site program because we have a full time and a seasonal inspector whose salaries are funded from the inspection fees. Administratively the fees are on-hold until everything is in place. The fees are expected to go into effect on March 1. The administration would like to conduct more training for the Tech Board. There will be classes offered in late winter and spring for designers and contractors. Jim will send emails when those are scheduled so Tech Board members will have an opportunity to attend. There may be another class specifically for the Tech Board, either in a special meeting or during a regular meeting.

### **Status of Advanced Wastewater System Code**

The advanced wastewater code was passed by the Assembly with no objections and no public comment. This code becomes effective 30 days after the approval. The code sets up a standardized procedure for testing and accepting innovative systems, and mandates a new contract with homeowners. The basic step that will change in our day-to-day procedures is from the old maintenance agreement to the formal contract to maintain systems. We are also developing a database of all advanced systems so we can easily query and find out which systems are performing maintenance and the dates of maintenance. Sharon asked if we had any applications for new systems or technology. Jim replied that we accepted one this year from the engineer Bob Tsigonis in Fairbanks. In addition, we have the No-Mound system. The first No-Mound system has been installed on a property in Girdwood. Next month Jim will give a website presentation to show the control panel for that system and other systems. The No-Mound system is connected to the phone system in the house. There was a power outage in Girdwood and the system automatically rang up an error message and sent it by email to Jeff Garness's office. He gets emails once an hour if the system is not operating. When the power came back on the system corrected itself and sent another email to Jeff saying it was operating correctly. Jim can go to the website, enter that system's code and see the condition of all parameters within the system. Jim said the system seems

to be working well. Earl Dotten asked if the advanced wastewater code required properties being sold with a history of high nitrates in the well to upgrade to a nitrate reducing system. Jim said if someone came in and had a well with a nitrate level of 12, we would require them to put in water storage facilities so they could haul water. They could then get approval of the system with a notification on the Health Authority that nitrates exceed the municipal standard.

### **AWWA Update**

The AWWA annual convention was held in February and was well attended. They had some excellent speakers including Roger Renner from the National Water Well Association. Craig Woolard did an excellent presentation on his arsenic study, and Dan Roth did the Municipal certification renewal seminar. Keven Kleweno gave a presentation as well. Earl said there is a movement towards statewide certification of well drillers. He thinks it will be a slow process and will have some impact on the municipal well code because the statewide certification would cover everyone, including Anchorage. Earl Dotten will serve another year as the AWWA advisory member for the Tech Board.

### **Election of Officers**

Sharon Minsch nominated Mark Musial as Chairman and Joel Neimeyer as Vice-Chair. Craig Woolard seconded the nominations. Nominations were closed, voting was unanimous in favor of Mark Musial as Chair, and Joel Neimeyer as Vice-Chair.

### **Annual Report**

Mark Musial will prepare the 2002 Annual Report.

### **Well Code**

Jim sent out copies of the well code with engineer's comments to members of the Tech Board. When the well code was last reviewed in 1997 the first draft was completed with the well drillers, and the intent was to get the engineers involved. Before they had a chance to meet with the engineers, the first draft of the code was passed by the assembly. Prior to the change, if your nitrates were above 10 you could not sell your house because there was no way to get approval on it. The new code allowed the HAA through hauled and stored water. It was somewhat of a hot issue, so it was approved quickly. The engineers got together anyway and marked up a copy of the well code.

Jim would like to make a list of topics that people would like to talk about and discuss them in detail later on. One topic would be to go over the list of recommendations from the Engineers. Mark said he would like to define the motivation for changing the well code, where we are going and why we are doing it. Jim said some of the things that have been brought up to the board and the program by the AWWA and Earl Dotten deal with well construction. Jim did an Internet search to find out what other jurisdictions were doing on well construction. There is not a lot of information about construction techniques available. Two specific areas of concern are; 1) in the current code if you are drilling into bedrock you only have to seat a well casing two feet into bedrock. This means if you are on the Hillside and have bedrock at 6 feet, you have a legal well that is cased to 8 feet and drilled down through fractured bedrock. The possibilities of contamination or effects of surface water on that well are much greater than on other wells where you case them to 40 feet, which is the minimum in the rest of the Municipality. 2) Jim also wanted to specifically discuss changing or defining a well construction method in areas that have a flowing artesian aquifer. He would like to make sure the impenetrable layer above an artesian aquifer is not made to be a leaky layer when you put in a casing. We have a requirement to grout around the casing, but Jim feels if you are hitting that layer at 200 feet, the chances of having a significant amount of grout still coming out of the casing at that depth isn't great.

In order to have a well legally approved by the Municipality of Anchorage, the water has to test below specific levels of certain parameters, including nitrates, fecal coliform bacteria and other bacteria. There have been discussions of making nitrates and arsenic different levels of notification rather than maximum levels for approval. For example, if a well had nitrates between 5 and 10, there would be a notification to the homeowner. If the contaminants were over 10, there would have to be something signed in our file that the buyers were notified it was over 10. This would be done in conjunction with the Health Department. Sharon Minsch said that when they are over five a notification is already on the Health

Authority but it sounds like Jim Cross is ready to take the standards just to advisory, and include arsenic in with that. She feels that the biggest thing the board needs to focus on is getting the notice to the public.

Jim said another topic is point of use treatment systems. He has been reluctant to approve any of those types of systems because there has been no way to guarantee maintenance of the systems to make sure they are still working. Now, however, with the advanced wastewater code we have a contract that can be used in conjunction with point of use treatment and make sure systems are maintained. We don't have to go that route, but it is an option that it is available for discussion.

Sharon said the engineer's comments were more grammar related than procedural and she would like to see some in-depth discussions about remediation. There are a number of wells with nitrates where well drillers have deepened the wells. There are currently no standards for how it's done. In Preuss and Colonial Heights subdivisions, a number of wells have been deepened, and they found better water. There is no information about what they are doing to protect the lower aquifer. Sharon feels there are enough people doing it that well drillers should at least be required to notify the municipality of what is being done and how it was done. Currently there is no requirement to remediate or maintain a well and the information about what has been done is not available. Sharon feels a permit or some type of documentation should be required for any type of work on a well.

Dan Young asked if the well drillers and engineers would be able to meet together to hash out problems this time or if they will meet separately again and have the same problems. Jim felt getting together with two separate groups was not the way to do it. When we get to the public discussion stage with the board, notification will be sent to everyone. Sharon added that well drillers are always invited, and are welcome to attend every meeting, but the board should edit the code and then have a public comment process. Mark Musial agreed. Dan added that one of the standards the well drillers would like to have looked at is completion of wells in bedrock. The well drillers have come up with a technique using grout they feel would be very protective of the groundwater. They believe much of the problem with nitrates and fecal coliform is from shallow bedrock areas. They believe requiring wells to be sealed into bedrock would reduce that problem.

Jeff Urbanus said that doing enforcement he found some of the language in the setback requirements could be improved. There is a 100-foot setback to "animal confinement areas, feed lots, and shelters". Jeff feels the wording is open to many different interpretations and he would like to see some clearer definitions of those areas. Sharon mentioned people tying their dogs to the well casings and animal runoff going to a neighbor's well. She asked if there could be some better teeth to deal with those things.

Jeff also feels the HAA needs to require more testing parameters, such as lead, nickel, and other contaminants. Another option would be to add flexibility to the HAA so that areas could be tested for contaminants suspected to be a problem such as arsenic in Sand Lake, or lead in Eagle River. Discussion of different types of contaminants and testing costs followed. Dan Young said the long term benefits of having data from different types of testing would be extremely valuable in being able to separate and identify the different aquifers and where they go. Jim said that in the day to day operation of onsite issuing permits to develop lots with water & wastewater systems is under title 15 which is the wastewater disposal code and the well code. Subdivisions requirements are under title 21 and the Techboard has historically not dealt with requirements under title 21. We could recommend some changes to Title 21 for water testing. There is a very ambiguous statement about subdivision approval for water quantity in Title 21. It says something about submitting information requested by the department to ensure that there is adequate water supply to support the proposed development. Jim will send copies of Title 21 before the next meeting and a copy of the well construction requirements in other jurisdictions he found on the Internet.

Dan Young asked what would be accomplished at the next meeting, and if limits would be set on how much will be discussed. Jim said he and Mark would get together and draw up a draft listing for discussion before the next meeting. Sharon stressed that the idea was not to create a completely new ordinance, but to look at some grammar and decide what updates, if any, should be included.

#### **DHHS Presentation – Jeff Urbanus**

Jeff said reviewing the well code ties in with a project he is running. The Health Department is working on a volunteer water-sampling program. They have been testing for arsenic and iron in wells and in about 10 percent of the wells they are sampling for a broad metal scan including about 26 different metals. Jeff explained the map he is creating showing wells with different levels of arsenic. DHHS started the project by looking at class A well data and any other existing water quality data from public water sources to establish a suite of potential contaminants. Beyond arsenic and nitrates, there wasn't much to look at. There was a question about whether there was an association between high iron water and high arsenic levels. Jeff has seen wells with ridiculously high iron and no arsenic and vice-versa, so he doesn't think there is a correlation, but that was looking strictly at values without running statistics. Jeff said the way he had been accomplishing the sampling was somewhat arbitrary, but in geographical groupings of 800 homes. Bi-monthly a form letter is sent to 150 randomly selected houses explaining the project and asking if they will participate. There is a business reply card included that they fill out and drop in the mail. Jeff later sends a sample bottle with instructions. The bottle is placed in a box with a business reply label, and goes to the lab. They have sampled about 250 wells and by the end of the project, they are hoping to get between 500 and 600. Jim said this will be great information when we start looking at testing parameters for the HAA. Craig Woolard has a related project with UAA that is focusing on West Anchorage and trying to get a more complete set of water quality data through the whole suite of ionic composition and look at well logs or whatever they can get to use it as a model system. Jim asked if the presentation he gave to the Water Well Association is something that would be appropriate to give to the Techboard. Craig said sure, it was a general overview of Arsenic treatment processes.

Jim asked if the Techboard felt it would be appropriate to invite Kristi Bischofberger who is the program manager of Watershed Management with PM&E, and Greg Soule' who is a plan reviewer in PM&E. Both people work with NPDES.

Jim formally thanked Sharon and Craig for their six years of service as members and officers of the Techboard, and noted that Sharon had a perfect attendance record for all of her six years.

The meeting was adjourned.