

Approved Minutes of the Technical Advisory Committee Meeting  
November 20, 2012

**Attendees:** Roger Thompson                      Mark Bannon  
Peter Boemig                                      Cindy Parks  
Bill Zabiloski                                      Steve Rebillard  
Claude Chevalier                                Steve Revell  
Spencer Harris                                   Anne Whiteley  
Mary Clark                                        Ernest Christianson

**Scheduled meetings:**

December 11, 2012    1-4 PM            Liquor Control Conference Room-Montpelier

January 15, 2013     1-4 PM            Liquor Control Conference Room-Montpelier

**Agenda:**

The agenda was accepted.

**Minutes:**

Mark asked that his comment related to system failures state that the coating on the crushed stone was caused by the backwash from a water treatment system.

**Process for Reduction in Well Isolation Distances:**

Steve said that there was no decision to report from the subcommittee looking into this issue. Ernie said that there was a meeting at Mark's office where the problematic issue of the type, number, and location of test pits needed to support a reduction in isolation distance was discussed. Steve noted the issue of confined space restrictions for deep test pits which Ernie thought had been resolved by using an approach where the hole is entered and evaluated when the hole was only 4' or 5' deep. After the detailed soil evaluation at that depth, the hole would be dug to the full required depth and the soil evaluation would be made by looking at the material removed from the hole. Ernie suggested that the subcommittee meet to work on this issue. Mary will arrange for a time and location.

**Groundwater Monitoring:**

The first draft of the agenda had included an item related to the monitoring process for determining the seasonal high water table (SHWT). Ernie asked that the subcommittee meet again and try to develop a recommendation on how to revise the process and the language in the Wastewater System and Potable Water Supply Rules. Roger will arrange for a meeting time and location.

## **UIC Rule Update:**

Ernie asked why nitrite/nitrate was not included in the statutory exemption related to water treatment systems and the disposal of the filter backwash. Steve said that he had not encountered any situations in Vermont where nitrite was a concern and only rare situations where nitrate was a concern. Anne recalled that during the TAC discussion related to nitrite/nitrate leading up to the statutory exemption was the basis for not including these contaminants in the exemption. The decision was based on the infrequent occurrence of the contaminants but also on the information at the time that there was no off-the-shelf technology that could easily be installed. The discussion at the time was that any treatment system would be specific to the water quality from a particular source and the design would need to be customized for that source. This led to a discussion of the qualifications needed to design such a system and the decision was to leave this responsibility to Professional Engineers.

Mark asked if the decision was based on health issues or UIC issues. Roger said it was mostly a health issue.

Anne raised a wording question in the current statute that creates an exemption for “existing” systems. Anne asked if the word “existing” should be removed even though virtually every system is existing by the time it is known that a water treatment system will be needed. Roger asked the TAC for an opinion. The TAC supported removing the word “existing” with one member abstaining.

Cindy reported that a meeting is scheduled for next week to meet with the DEC Commissioner and the ANR Secretary. There is a full draft of the UIC Rule revisions that will be presented at the meeting along with the history and reasoning behind the proposed changes. As soon as the Commissioner and Secretary sign-off on the concepts in the draft the Department can begin the rule making process which includes review by other Divisions and Agencies throughout state government, the general public, various interest groups, and eventually the Legislative Committee on Administrative Rules (LCAR). The TAC will receive electronic copies when the draft is released for review outside of the Dept. of Environmental Conservation. Steve said it seems unlikely the Commissioner or Secretary would flatly reject the proposed draft and looked forward to TAC having a chance to review the document.

## **Innovative/Alternative Systems:**

Cindy discussed the proposed update of the approval for use of the Presby Enviro-Septic System. Presby Environmental has requested several revisions related to the current Enviro-Septic design manual approved for use in Vermont. Spencer said that one issue for him has been conflict with the Regional Office Staff when the existing design manual allows for designs that do not conform to the requirements in the Wastewater System and Potable Water Supply Rules (WWR). It was noted that the point of the Innovative/Alternative System approval process is to permit systems that do not conform

to the WWR. Roger gave a specific example where the Presby system can be used in a mound construction without requiring pressure distribution. This was approved based on testing done in Canada that supported the change. Others said that designs conforming to the Presby design manual for Vermont had been questioned by the Regional Office staff. Ernie said that everyone should stick with the requirements in the approved Vermont design manual until the design manual is revised. If the regional office staff have questions they should contact Ernie or Cindy for a resolution.

One area of discussion is the use of serial distribution with the Enviro-Septic system. The TAC members are particularly concerned about the use of serial distribution into sections that are more than 50' in length. Steve said that whenever he uses the Enviro-Septic system with long pipe sections or pipe sections at different elevations he always uses a distribution box. Presby Environmental is asking for approval for serial distribution with lengths of up to 200' along the contour which most of the TAC feels is excessive.

Another area of discussion was the method of installation of the Enviro-Septic system in at-grade and mounded situations. Presby Environmental would like to use the method approved in New Hampshire where the organic material and the first several inches of soil, usually the "A" horizon is removed and replaced with sand fill. The current Vermont approval requires that the site be prepared by removing the organic material on the ground surface followed by some method of "plowing" the ground surface. This might be done with a traditional land plow such as farmers use, or with a backhoe/excavator using the teeth of the bucket or maybe a frost hook installed on the bucket. Steve said that the land plow approach requires a large tractor at least when working in the Addison County clay soils. The TAC feels that the existing Vermont method is valid and should be retained as it makes the best use of the upper layers of the existing soil where the best treatment and greatest permeability exist.

Steve said that he is hearing about failed Enviro-Septic systems. At this point it is not clear if this is disproportionate in comparison to traditional pipe and stone systems. Cindy has been trying to gather information from other states that have been using the Enviro-Septic product in large numbers for several years but it is difficult to get hard data.

Presby Environmental is also requesting approval for installations on sloping ground where the interface between the native soil and the sand fill is also sloping. While this has been approved in Vermont for mound type systems it has not been approved for in-ground installations due to concerns that the effluent may tend to flow downslope at the interface if the native soil is significantly less permeable than the sand fill. Several members of the group expressed concerns about this proposal; however there is agreement that it may be a hydrogeologic issue. It may be that with careful design the along contour loading rate could be managed to minimize the risk of overloading at the downhill toe area.

There was also some discussion about the renovation of failed Enviro-Septic systems. In some cases Presby Environmental recommends excavating and opening both ends of each run of piping to allow a free flow of air through the system for several days. This is thought to restore the functioning of the system but it is unknown if there has been any evaluation of whether this leads to long term recovery of the system.

Items prioritized for discussion with high, low, and medium ranking

1. Soil identification vs. perc test **medium**
2. Curtain drain with presumption of effectiveness **high**
3. Revisions to desktop hydro chart **medium**
4. Minimum amount of sand under a mound **high**
5. Water Supply Rule update **high**
6. Seasonal High Water Table determination for performance based systems **high**
7. Wastewater Strength

### **Executive Committee**

Steve Revell, Ernest Christianson, Roger Thompson

Alternates – Chris Thompson, Spencer Harris, Claude Chevalier, Craig Heindel

### **Subcommittees**

Hydrogeology –

Craig Heindel, Bill Zabiloski, Mark Bannon, Scott Stewart, Steve Revell, Mary Clark

Overshadowing of Isolation Distance Issues –

Anne Whiteley, Ernie Christianson, Roger Thompson, John Beauchamp, Gail Center, Chris Thompson

UIC Rules and Geothermal Wells -

Craig Heindel, Steve Revell, Roger Thompson, Ernie Christianson, Scott Stewart, Rodney Pingree, Kim Greenwood, Cindy Parks

SHWT Monitoring –

Craig Heindel, Steve Revell, Roger Thompson, Ernie Christianson, Bill Zabiloski,  
Dan Wilcox, Mary Clark

UIC Rules and Disposal of Wastewater from Water Treatment Systems –

John Beauchamp, Gary Adams, Roger Thompson, Ernie Christianson,  
Gail Center, Cindy Parks

Wastewater Strength -

Mary Clark, Cindy Parks, Peter Boemig, Bill Zabiloski, Roger Thompson,  
John Akielaszek,

Bottomless Sand Filters-

Peter Boemig, Mark Bannon, Cindy Parks, Mary Clark, Denise Johnson-Terk