

Approved Minutes of the Technical Advisory Committee Meeting  
February 17, 2015

**Attendees:** Roger Thompson Peter Boemig  
Mark Bannon Ken White  
Jessanne Wyman Justin Willis  
Denise Johnson-Terk Craig Heindel  
John Beauchamp Steve Rebillard  
Travis Blodgett Scott Samuelson  
Mary Clark Ernie Christianson  
Rodney Pingree Darlene Autery  
Chris Russo Scott Stewart

**Scheduled meetings:**

March 17, 2015	1-4 PM	Winooski Con. Rm., National Life – Montpelier
April 14, 2015	1-4 PM	Winooski Con. Rm., National Life – Montpelier

**Agenda:**

The agenda was accepted.

**Minutes:**

The draft minutes of the January 13, 2015 meeting were amended. Craig asked if all roadways have ROW and therefore the minutes should reflect that. After some discussion it was decided to leave the language as drafted. Craig said that in the discussion of overflowing wells the term pump installer should be used rather than well installer. Ken said that the information provided for discussion about overflowing wells was prepared by the Vermont Groundwater Association rather than the National Groundwater Association.

**Legislative Update:**

Ernie reviewed the bills currently filed. H.217 allows for partial delegation of the Wastewater System and Potable Water Supply System permitting program to municipalities that control both the water system and the sewer collection system. Ernie noted that the draft rules already include a section that will allow for this delegation. H.25 is a bill that allows for natural burials. The concept is to use a process without embalming so that the body can decompose and return to the environment. The burials would be subject to the health regulations of the state and towns. H.53 is related to the isolation distances for water and wastewater systems and would require that the isolation distance be owned or controlled by the permittee. The bill also allows the permittee to waive the isolation distance requirements related to a single family residence. The waiver language would be added to the land records and the owner or subsequent owners

would have no recourse against a neighbor who installs a water or wastewater system within the normal isolation distances. The bill does not require the landowner to be the occupant of the single family residence. S.70 requires a statement of the status of the wastewater system as part of any property transfer. If the system is an unpermitted wastewater system the seller is to provide a description of the system and the location of the system. If the information is incorrect the buyer would have up to two years to file a claim against the seller. The TAC noted that in many cases the seller does not have any definitive information about the construction or location of the system and finding out the information with certainty can be expensive.

### **Stream Bank Surveys:**

Ernie said that as part of the Department's initiative to protect surface water quality the Department may be going out to do stream bank surveys. This involves walking along the streams looking for straight pipes, leaking septic systems, or other sources of contamination that can reach the streams. The Department did a lot of stream bank survey work in the 1970's after the statewide ban on straight pipe discharges was imposed in 1969.

### **Fuji Clean Wastewater Treatment Systems:**

Scott Samuelson, the representative for Fuji Clean, USA – a U.S. based subsidiary of the Fuji Clean, Company, Ltd. of Japan, gave a presentation on how their advanced treatment unit works. Scott noted that while the system is new in the United States the company has 500 employees in Japan and produces 50,000 units per year. Approximately 2,500 units have been installed in Australia. Scott also reported that there are no leachfields in Japan and that houses without municipal sewer connections use advanced treatment units with disinfection that discharge to surface ditches.

Scott described the units as physically small and light in weight making transport and installation easy. The system functions with an aerobic/anaerobic process. Effluent first reaches a sedimentation tank and then flows into a second chamber where anaerobic treatment occurs and then into a third chamber where aerobic treatment occurs. Air lift pumps move the effluent from the third chamber to discharge and also recirculate effluent from the third chamber back to the first chamber. The recirculation ratio is about 4 times the amount discharged from the system at the end of the treatment process. The company does not believe that a separate septic tank installed prior to the treatment unit is needed but would allow the installation if local regulations require it. The basic system uses about \$6.50 of electricity per month based on Vermont rates. The system meets the standards for NSF-40 and NSF-245 testing. Scott said the price of the basic unit is about \$3,500.

Roger asked about possible failures of the air injection system. Scott said that the blower used in the system has been trouble free but if problems occur the alarm system would be triggered. Remote monitoring telemetry can be installed as well. Craig asked if certified service providers are required. Scott said yes and that he would work to see that there are

several authorized providers. Peter noted that the influent used to test the system had a BOD of 150 mg/l and asked if this was lower than normal for NSF testing. Scott said that while one of the challenges for the NSF testing program is to get consistent quality of the influent, the influent was within the normal range for NSF testing. Ernie asked if the system could handle wastewater rated as either low strength or medium strength under the Wastewater System and Potable Water Supply Rules (Rules). Scott said that the system can be designed to accommodate both low and medium strength wastewater. Ernie asked about approvals for use in the United States and Scott replied that Maine and West Virginia have approved the system and 5 other states are reviewing the system.

Craig asked how the Department makes a decision on whether a system should be approved for pilot or general use. Mary reviewed the section in the Rules that defines the two categories. Ernie asked about tank integrity and Scott said that testing has been done on the tank structure and will be submitted. Craig said that the system should be considered for general use approval. Roger said that testing results from other countries should be considered if the test procedures are consistent with those in the United States. Chris asked if there are considerations for oil and grease concentrations. Roger asked if the company specifies influent limitations. Scott said there are limitations but that companies design for a specific case taking into consideration the BOD, TSS, and oil and grease levels. Roger asked if the aeration head is reliable. Scott said it is a simple construction using PVC pipe with 1/8" holes. The system is tested at the time of installation and at each inspection. If there is any clogging a hose and brush system is used to clean the system. Replacement is seldom needed. Scott said the company is recommending two inspections per year though the system is very reliable and once per year may be sufficient. Chris asked how seasonal use affects the system. Scott said that it takes a week or so for the treatment level to return to full effectiveness because it is a biological process.

### **Rule Revisions:**

Ernie discussed the revisions he made to the section on overflowing wells which had been circulated to the TAC. Ernie said that some of the changes reflected the TAC discussion and comment that aquifer depletion is not a concern for the majority of overflowing wells. Scott asked about the inclusion of the word "confined" in section 1-1021(c). Ernie and Roger replied that the concern is about wells that pierce a confining layer and release pressure. If the upward flow is not controlled, erosion of the confining layer around the well casing may occur. Craig suggested adding an (a)(4) with language that prevents any overflow from damaging neighboring properties. Craig also noted that sections (b)(2) and (b)(3) cover the universe and therefore should be combined into one section. Ernie will determine if the Department intends to apply these standards to non-potable wells.

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**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, Roger Thompson, Peter Boemig, Ernie Christianson, Spencer Harris

**Bottomless Sand Filters**

Peter Boemig, Mark Bannon, Cindy Parks, Mary Clark, Denise Johnson-Terk, Craig Heindel, Ernie Christianson

**Seasonal High Water Table Monitoring**

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