

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

**Attendees:** Roger Thompson  
Mary Clark  
Claude Chevalier  
Chris Russo  
Gail Center  
Mark Bannon  
Darlene Autery  
Craig Heindel  
Jessanne Wyman  
Shawn Donovan  
Peter Boemig  
Ken White  
Travis Blodgett  
Justin Willis  
Ernie Christianson  
John Beauchamp  
Gunner McCain  
Michael Marquise  
Steve Revell  
Marc Roy

**Scheduled meetings:**

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

**Agenda:**

The agenda was accepted.

**Minutes:**

The draft minutes of the February 17, 2015 meeting were accepted

**Legislative Update:**

Ernie reviewed the bills currently under discussion. H.25, related to natural burial grounds was discussed in committee. Chris Thompson testified. The Vermont Department of Health has guidelines that would be followed under the bill. The Department of Environmental Conservation (DEC) has not been asked to testify on H.53 which requires ownership or legal control of all isolation distances to water and wastewater systems. Ernie, Chris Thompson, and Matt Chapman testified in favor of H.217 which allows for partial delegation of the Wastewater and Potable Water Supply Program to municipalities that own or control both the water and wastewater systems. The proposed rules already include this language. The DEC has not been asked to testify on S.70 which would require a time of sale inspection of the wastewater disposal system. The bill would require the seller to disclose if the system is permitted, and if permitted in compliance with the rules, and if not permitted the location and nature of the system must be disclosed in writing. A time of sale bill was considered a few years ago and was not passed in part due to the difficulty and cost of determining the location and construction of an existing system. The DEC will be called to testify about H.375 which would promote ecological toilets and grey water systems.

### **Innovative/Alternative Systems:**

Mary said that the DEC had issued a general use approval for the Hydro-Action Wastewater Treatment System. As part of the review, Mary did contact regulators in Indiana, where the system is manufactured, and there were no negative comments.

The DEC has also issued a general use approval for the Fuji-Clean Wastewater Treatment System to treat residential wastewater.

Updated drawings of the tank designs for the Delta ECOPOD system have been submitted to DEC and are under review.

The DEC sent a letter to the Eljen Corporation about their request for approval of the Mantis Wastewater Treatment System. The letter said that the system could be approved for inground systems using gravity flow or pumping to a distribution box. The system could be approved using the proposed pipe-in-pipe pressure distribution for mound systems.

Roger asked if the pipe-in-pipe approval could be used with other treatment systems, particularly when adding a treatment unit to an existing non-pressurized system. Mary said that the decision is based on the proposal made by the Eljen Corporation and any other use would need to be reviewed on its own merits.

Mary said that DEC is caught up on all of the Innovative/Alternative reviews with all applications either approved or waiting for information from the applicant.

Mary also mentioned a new book entitled Know Soil – Know Life that she recommends. Craig asked that the reference information be circulated to the TAC.

### **Underground Injection Control:**

Darlene Autery provided an update on the Underground Injection Control Program (UIC). The UIC program is a Federal Program which can be delegated to a State. Vermont has this delegation and operates the program under rules adopted by Vermont in accord with the Federal requirements. Darlene joined the UIC Program in August of 2014 and is implementing the revised UIC Rules that became effective on October 29, 2014. The UIC Rules were revised so that low risk activities are not reviewed or permitted. High risk activities are banned. Moderate risk activities are regulated. Conditional exemptions are available for some discharges, which allows for the activity to occur without requiring a permit provided the activity follows prescribed methods. Some exemptions include water treatment backwash systems, geothermal heating systems, certain mining wastes, and where discharges are regulated by another permitting program. There were about 65 active UIC permits prior to the UIC Rule amendment; approximately 7 of those permits will continue under the amended UIC Rules. Landowners who were subject to permits under the previous rules but who are exempt or not subject to jurisdiction under the new rules have been contacted and are allowed to

request voluntary revocation of their permits. Most of those eligible for voluntary revocation have made that request.

There are about 1,650 floor drain registrations in the DEC files. Many of these are identified as being “closed” (sealed with concrete), connected to municipal sewer, or daylight and are therefore not UICs. Still, many of these are for pre-existing floor drains with subsurface discharges that were subject to the previous UIC Rules but were simply allowed to file a registration form. Under the new rule, about 460 of these floor drains (based on SIC Codes for automotive related industries) need to stop any subsurface discharge because they are considered under the new rules to be high risk activities that are prohibited. The options are to close the drain entirely, connect to a municipal wastewater collection system if allowed, or to install a tank that is pumped and taken to an appropriate treatment facility. Some, approximately 65 of the registrations, are identified (based on SIC Codes) as requiring a permit under the amended UIC Rules.

Darlene said that the DEC had completed a report required by the Legislature about the environmental impacts of the hydrofracturing process as related to oil and gas production. The State of Vermont has enacted laws and rules prohibiting hydraulic fracturing for oil and gas in Vermont due to the evidence of risks to human health and the environment. The DEC report recommends continuing to ban the process. The report is available on the Legislative website at:

<http://legislature.vermont.gov/assets/Legislative-Reports/ANR-REPORT-REGULATION-OF-HF-FOR-OIL-OR-NATURAL-GAS-RECOVERY-2015.02.12.FINAL.pdf>

Ken asked about the exemption for backwash disposal from water treatment systems. There is a conditional exemption for the list of specified constituents which covers most of the contaminants naturally occurring in Vermont groundwater. John commented that the major constituents discharged from water treatment systems are the salt and oxidizing compounds used in the treatment system, along with any accumulated constituents removed from the water by the treatment system, assuming the contaminants are removable from the media. There are a few softening systems where the water hardness is very high (50- 200 grains) that use a lot of salt because of the large amount of ion exchange occurring. John also noted that many systems use much more salt than required to treat the water because they are set inefficiently and/or the initiation of regeneration is not based on use. This wastes money and discharges the unneeded salt into the groundwater. John has observed increasing levels of salt in the groundwater (presumably from human influence) over the 28 years he has been doing water treatment, most of which he feels comes from the use of road salt in the winter, and some of which undoubtedly also occurs from water softening. Mary said that she reviewed two papers studying the use of water treatment system residue to remove high levels of phosphorus in wastewater. Craig asked if any contacts have been made to the engineering departments at the University of Vermont or at Norwich University about studying the problems with increasing salt contamination. John said that he has a few trial systems using non-salt methods to treat hardness. This is not an electrical or magnetic method as seen on TV but instead uses a media to convert the calcium and magnesium to small

(invisible) crystals of calcium or magnesium carbonate, and thus reducing the tendency of the water to form scale on piping and heating surfaces.

### **Salvage Yards:**

While Ernie was working on the isolation distances portion of the revised Rule he learned that there are statutorily set well isolation distances related to salvage yards. Shawn Donovan and Marc Roy, who work with the salvage yard regulations, attended the meeting to discuss how the isolation distance is applied under the salvage yard regulations and how it can be coordinated with the Wastewater System and Potable Water Supply Rules. The statute sets a 300' isolation zone around area where recycling work occurs. After some discussion it became clear that the entire property needs to meet the isolation distance unless the operation is clearly limited by the permit to only a portion of the property. The isolation distance can be reduced by the Secretary when the site conditions such as soil type and groundwater flow direction clearly protect wells that are less than 300' from the working area. Ernie asked about applying the two-year time-of-travel rule. Craig said that two-year time-of-travel works for pathogenic contamination but not for contaminants related to salvage yards. In a salvage yard situation a demonstration that the contamination does not flow towards a well or that the discharge meets all groundwater standards is required.

The salvage yard rules prohibit the construction of a salvage yard within 300 feet of a well but do not regulate the construction of a well not on the salvage yard property. The Wastewater System and Potable Water Supply Rules need to include an isolation distance for salvage yards which could be reduced in consultation with the salvage yard program.

### **Rule Revisions:**

Ernie reviewed his latest draft of language about the discharge from overflowing wells. The TAC recommended just one standard for the discharge point using the requirements for at least 6" of drop to an area where the surface water will flow away from the discharge point.

The term basal area was discussed. The current draft describes the area under and downslope of the leachfield in a mound as being the basal area. The rules also describe a minimum basal area based on percolation rates and isolation distances are set from the minimum required basal area. The TAC recommends redefining basal area as that required based on the percolation rate.

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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