THIRD ANNUAL REPORT TO THE LEGISLATURE OF THE TECHNICAL ADVISORY COMMITTEE

Established by Act 133 of the 2001 Adjourned Session

REGARDING OVERSIGHT AND IMPLEMENTATION OF THE

WASTEWATER SYSTEM AND POTABLE WATER SUPPLY RULES

January 15, 2005

Submitted by: _____

John Forcier, P.E. – Chair
Alt. Brad Aldrich, P.E.

For:

Bernard Chenette, P.E.
Lance Phelps, P.E.
David Cotton, P.E., Hydrogeologist
Alan Huizenga, P.E.
Craig Heindel, Hydrogeologist
Stephen Revell, Hydrogeologist
Philip Dechert, Town Planner
Gail Center, Health Department
Gerald Kittle, Site Technician
Barbara Willis, Site Technician -
Alt. Justin Willis, Site Technician
Spencer Harris, Site Technician
Jeff Williams, Well Driller
Kimberly Kendall, Water Quality Specialist
Rodney Pingree, DEC, WSD
Allison Lowry, DEC, WWMD
Roger Thompson, DEC,WWMD

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Purpose: This report on implementation of the Wastewater and Potable Water Supply Rules is the third of five annual reports required by Act 133 of the 2001 Adjourned session.

Section 1978 of 10 V.S.A., as established by the Act, focused on the need for the technical standards to be updated immediately to include new technologies and for revisions to the technical standards to be routinely accomplished in order that the standards remain current with known and proven technologies regarding potable water supplies and wastewater systems. The statute established a Technical Advisory Committee (TAC) to advise the Vermont Agency of Natural Resources (ANR) regarding the technical standards and implementation of Act 133.

The reports will include information on the following topics:

- Implementation of the statute and the rules adopted under the statute,
- Number and type of alternative/innovative systems approved for general use, approved for use as a pilot project, and approved for experimental use,
- Functional status of alternative/innovative systems previously approved for use as a pilot project or for experimental use,
- Number of permit applications received during the previous year,
- Number of permits issued during the previous year,
- Number of permit applications denied during the previous year, including a summary of the basis for denial.

Meetings: Eleven (11) meetings were held by the TAC during 2004, with each meeting approximately 3 hours in duration. Meetings were held on January 6, February 3, March 9, April 13, May 11, July 27, September 7, October 12, October 26, November 9, and December 7. Meeting attendance ranged from 7 to 13 members, and included guests at some of the meetings, such as Commissioner Wennberg on July 27; Anne Whitely (ANR attorney) on July 27 and November 9; Thomas Villars (NRCS Soil Scientist) on February 3; and Karen Horn (Executive Director, Vermont League of Cities and Towns) and Thomas O'Connor (Chair, Vermont Board of Professional Engineering) on November 9. Also usually attending were Christine Thompson, Director of the Wastewater Management Division and Frank O'Brien, Innovative Systems Engineer for the Wastewater Management Division.

Full minutes of each meeting are contained in the Appendix A and can be viewed on line at www.anr.state.vt.us/dec/ww/rules.htm. The website also contains the following:

- On-site Wastewater and Potable Water Supply Rules & Regulations,
- Application Fees & Forms,
- Site Technician Certification Program,
- Technical Advisory Committee and Education and Implementation Committee Information,
- Innovative Systems Approvals,
- Contact Information.

Implementation of the statute and the rules adopted under the statute:

TAC Chairperson: The TAC agreed that it is advisory to both the ANR and the State Legislature. In that capacity, TAC members determined that the TAC should be chaired by someone who is not affiliated with ANR or the legislature. Accordingly, in 2004 John Forcier, P.E. continued his role as elected Chair of the TAC.

Recommendations to ANR in 2004, regarding statute and rules: The TAC made the following recommendations during the course of their meetings in 2004. Each item is followed by the meeting dates during which related discussions were held.

1. **Revisions to EPRs, Ch. 1, Wastewater System and Potable Water Supply Rules** – A substantial amount of the TAC's time in 2004 was devoted to proposing and reviewing revisions to the WS&PWS Rules, which ultimately were adopted in late 2004, and became effective on January 1, 2005. The changes to the rules are summarized in Appendix E. The TAC's recommendations regarding topics addressed by this rule revision are listed below. These rule revisions were discussed to some degree at every one of our 11 meetings in 2004. In addition to the items pertaining to technical or regulatory revisions listed below, the TAC made the following recommendations to DEC:
   a. The TAC repeatedly urged DEC to move forward with the adoption of revised rules soon, even if this meant postponing until future dates some revisions that DEC felt were not yet ready to take through the adoption process (2/3 and subsequent).
   b. At our 11/9 meeting, the TAC voted to support the rule revisions proposed by DEC at that time, with some specific recommendations for language changes. Stephen Revell, elected spokesperson for the TAC, testified regarding TAC's support at LCAR on 12/2/2004. TAC recommended that a spokesperson always testify at LCAR hearings in the future.
   c. The TAC created an Executive Committee to respond to requests for comments which have short scheduling requirements, and other committee leadership needs (9/7).

2. **Licensed Designers**– The TAC recommended the following requirements and/or limits of jurisdiction for Licensed Designers who are not Professional Engineers (formerly called "Site Technicians") (3/9, 4/13, 11/9, 12/7):
   a. Can design for public buildings serving up to 24 people as long as the water and wastewater systems do not exceed 1,350 GPD of design flow.
   b. This current rule revision should not reduce the amount, type or size of systems that non-engineers are currently allowed to design.

   The TAC also supported Continuing Education for all Licensed Designers, including Professional Engineers.

3. **Two-Year Time-of-Travel Zone** – The TAC supported inclusion of the concept of a two-year time-of-travel zone in the revised rule, to allow for wastewater disposal at some locations not currently allowed, and assisted DEC personnel in drafting appropriate language (1/6, 10/26, 11/9). The TAC also recommended that a qualified hydrogeologist be required for use of this concept.

4. **Storage-and-Dose** – The TAC supported inclusion of the storage-and-dose concept in the revised rule, to allow the temporary storage of wastewater during high-water-table periods, followed by dosed disposal at later dates when site conditions are in compliance, and assisted DEC personnel in drafting appropriate language (1/6, 11/9). The TAC recommended that these designs be prepared by a professional engineer.

5. **Grease Trap Rule Revisions** – TAC provided advice to DEC on proposed rule revisions regarding grease traps, and ultimately supported DEC's proposed rule revisions (3/9, 11/9).

6. **Other Concepts for Sites with Severely Limiting Conditions** – The TAC reviewed other concepts that might address sites with severely limiting conditions on which the current rules would not allow any type of wastewater disposal, and made the following recommendations:
   a. **Drip Disposal** - The TAC considers that this disposal technology may have high potential for sites with high seasonal water tables, and is actively reviewing technologies and regulatory schemes for drip disposal. A Sub-committee on Drip Disposal was appointed (7/27), and TAC's review of this technology will be an important task in 2005.
   b. **Definition of Wastewater Effluent** – The TAC was requested by DEC to assist in determining a working definition of wastewater effluent – "when is effluent no longer effluent?" A Sub-committee on Effluent Definition was created (12/7), and TAC's advice to DEC will also be an important task in 2005.
   c. **Reduced Isolation Standards if Wastewater is Disinfected** – The TAC considered the concept of reduced isolation distances to potable water supplies and/or surface waters if a wastewater disposal system includes disinfection. We recommended that this concept not be included in the current rule revision, pending TAC's further review of health-risk studies. TAC also acknowledged the significant policy change this concept represents, and recommended that a wider review process is needed which includes the state legislature and a wide variety of state-wide organizations.

7. **Uniform Statewide Rules:** The TAC confirmed its 2003 recommendation that Towns should not be allowed to adopt more stringent rules than the Uniform Statewide Rules (3/9, 11/9).

8. **New Technologies** – The TAC provided technical reviews to DEC of applications for Innovative or Alternative permits for several treatment and disposal technologies in 2004. In addition, the TAC made the following general recommendations to DEC regarding its evaluation procedures for such applications:
   a. **Independent Third-Party Testing** should be required; testing should not be accepted if relatives or business interests of applicants conduct or participate in the testing (4/13).

b. **Replication of Real-world Conditions** should be required; the testing procedures should mimic typical operational conditions as closely as possible (5/11).

9. **Soils Evaluation Courses:** The TAC supported the one-day training sessions on soils evaluation arranged by the American Council of Engineering Companies of Vermont (ACEC/VT). ACEC/VT sponsored four training sessions in 2004, which were attended by 72 people, including 20 ANR personnel (training sessions were conducted on 5/14, 6/15, 11/19 and 11/23). All four training sessions in 2004 were taught by Thomas Villars, Soil Resources Specialist with the Natural Resources Conservation Service (U. S. Dept. of Agric.).

10. **Improved coordination with Legislators** – The TAC recommends that its coordination with State Legislators be improved, and that educational opportunities be created. The TAC created a sub-committee, which has been working to develop an informational website (10/12).

Number and type of alternative/innovative systems approved for general use, approved for use as a pilot project, and approved for experimental use: Appendix B includes a summary of innovative/alternative technologies and their current status. Several advanced treatment systems and other devices were approved for general or pilot use in previous years, as listed in Appendix B.

General Use: In 2004, the following technologies, products or regulatory limits were approved for general use in Vermont:

- Bio-Microbics FAST fixed-film advanced treatment system;
- Increased application rate for Enviro-Septic gravelless distribution pipe;
- Polylok Effluent Filter (PL-68);
- Orenco Fiberglass Septic Tanks.

No applications for general use approval were denied in 2004, or have been denied since the revised Wastewater Disposal Rules went into effect on August 16, 2002.

In 2004, manufacturers of six advanced treatment systems applied for approval for use in Vermont, and are currently under review. In addition, manufacturers of three wastewater disposal products applied for approval for use or amended regulations (increased application rates) in 2004, and are currently under review. Also, manufacturers of two advanced treatment systems applied for approval for pilot use in 2004, and are currently under review. See Appendix B for the list of treatment systems and products currently under review.

A total of nine advanced treatment systems and nine other devices are now approved for general use in Vermont, with applications from the manufacturers of seven additional treatment systems and three other devices currently under review.

Functional status of alternative/innovative systems previously approved for use as a pilot project or for experimental use: One application for pilot use of an aerated subsurface-flow wetland was received in 2004. Also, one application for pilot use of a bottomless sand filter was received in 2003. Both applications are still under review. No applications for pilot use were received prior to 2003.

No applications were received in 2004, or prior to 2004, for experimental use.

Number of Permit Applications Received, Issued and Denied in 2004:

Number of permit applications received during the previous year: The number of permit applications received in 2004 is 2,842, which is an increase of 8% (214 applications) over the number received in 2003.

Number of permits issued during the previous year: The number of permits issued during 2004 is 2,786. This number includes the issuing of permits for projects which have been pending for more than one year. The number of permits issued in 2004 is a increase of 2% (45 permits) from the number issued in 2003.

Number of permit applications denied during the previous year, including a summary of the basis for denial: The number of permit applications denied during 2004 is 35, which is a decrease of 19% (8 denials) from the number of denials in 2003. Ninety-seven percent of the denied permit applications (all but 1 out of 35) were rejected due to a lack of sufficient information.

Note: Appendix C includes a table listing the number of permit applications and permits issued /denied for 2003 and 2004.

Appendix A

APPROVED MINUTES FOR TECHNICAL ADVISORY COMMITTEE MEETINGS:

Approved Minutes of the Technical Advisory Committee Meeting
January 6, 2004

Members Present:	Roger Thompson	Craig Heindel
	Bernie Chenette	Gail Center
	Allison Lowry	Barbara Willis
	Gerry Kittle	Alan Huizenga
	Jeffrey Williams	Rodney Pingree
	John Forcier	Gary Fern

Others Present: Frank O'Brien

Scheduled Meetings

February 3, 2004	1-4 PM	107 Stanley Hall
March 9, 2004	1-4 PM	Mad Tom Room

Review of Agenda

The agenda was reviewed and items related to bills introduced in legislature and a handout from Thom Villars of NRCS were added.

Review of Minutes

The minutes of the December 9, 2003 meeting were reviewed and approved as drafted.

Legislative Report

The committee reviewed the updated draft of the report prepared by Craig and Gary. John noted that the list of members with their contact information needed to be added as an appendix. Craig asked that the actual training dates and number of attendees be documented in the report.

There was discussion about how to best present the information related to innovative systems and their approval history. It was decided to have one page that was a simple list of what can be used at the current time. Another list was divided so that it would be clear what was acceptable prior to passage of the statute, what was accepted for use in 2002, and what was accepted for use in 2003, and what is still pending review.

Gary will make some final changes to the text portion of the report and send to Roger. Roger will get information from Frank and the DEC tracking system to complete the information tables in the appendix of the report. Roger will assemble all the pieces and send an electronic copy to John for final review and signature. Roger will then have the report copied and will get the report to the House and Senate Natural Resources Committees.

John expects a request from the House and Senate NR Committees to meet and review the report.

Proposed Legislation

Roger handed out copies of S.195 and S.249 and briefly reviewed each bill. The committee felt that the proposed change in S.195 to allow for surfacing systems would require a more detailed understanding of what the actual intent of the bill is in order to decide whether it would be reasonable. The Department has not taken a position on either bill yet, but has recently affirmed support for the existing position that the two main principles underlying the rules are no direct discharge to surface waters or discharge of effluent to the surface of the ground.

Thom Villars Handout

John distributed copies of a handout prepared by Thom Villars who works for the Natural Resources Conservation Service (NRCS). The information is related to using the soils mapping done by NRCS as a basic planning tool. The soils had been rated for suitability for wastewater disposal based on the previous rules, and after the 2002 rules were adopted allowing performance based designs on soils with less depth to bedrock and SHWT, Thom updated the suitability ratings to reflect those changes. The Committee decided to ask Thom to attend the next meeting and present his information.

Clay Soil Concepts:

Roger asked for a sense of the committee on whether the two-year time of travel approach should be explored further. The two previous meetings included thoughts that while the subcommittee had identified an approach that would allow for reasonably efficient identification of the management zone, it did not immediately lead to making development practical except on a small number of lots.

Roger also asked for discussion about the concept of storing effluent during the high water time of the year and applying the effluent when the water level is lower. Depending on the design flow and the storage period, the tank might need to be 20,000 to 30,000 gallons in size. The two-year management zone would be applicable to this approach, as there could be periods each year when a high water table would keep the effluent plume in the upper soil layers where horizontal movement would be much more rapid. This led to the following discussion.

Jeff asked about what kind of treatment happens in a 30,000-gallon tank. Craig said that not too much happens beyond the settling that happens in any septic tank and that the biologic treatment that happens in soils is because of the very large surface area available and more aerobic conditions. John asked about whether tanks could be modified to provide this surface area or otherwise modified to make them more efficient. Craig suggested that configuration changes would probably not cause much improvement.

Frank said that he was continuing to research the issues related to drip disposal. Still unresolved

is how deep the emitters need to be in order to protect against freezing and how important pre-treatment is for good operation of the system.

It was decided to write up outlines for the two-year time of travel and for storage systems.

Innovative Systems

Frank said that he had recent requests from Polylock for a 4" filter that can be inserted into standard 4" drainage piping that is sometimes used to form the outlet baffle and from a company asking for approval for a fiberglass septic tank.

Appendix A

Approved Minutes of the Technical Advisory Committee Meeting
February 3, 2004

Members Present:	Roger Thompson	Steve Revell
	Alan Huizenga	Spencer Harris
	Gail Center	John Forcier
	Kim Crosby	Rodney Pingree
	Craig Heindel	Tom Ray
	Phil Dechert	Dave Cotton
	Bernie Chenette	
Others Present:	Chris Thompson	Frank O'Brien
	Thomas Villars	

Scheduled Meetings:

March 9, 2004	1-4 PM	Mad Tom Room
April 13, 2004	1-4 PM	100 Stanley Hall
May 11, 2004	1-4 PM	107 Stanley Hall
June 8, 2004	1-4 PM	100 Stanley Hall

Presentation by Tom Villars

Tom Villars, a soil scientist with the Natural Resources Conservation Districts presented information correlating the NRCS mapping with the revised minimum site conditions in the 2002 rules. This information is used by municipalities for large scale guidance in formulating town plans or zoning ordinances. Mr. Villars reviewed the changes and pointed out that with the 20% slope limitation imposed by the legislature, there was a relatively small change in the percentage of soils that are now mapped as suitable for wastewater disposal systems.

The committee noted that while the information is useful for planning purposes, the smallest designated area shown on the maps includes 3 acres and that any actual design requires a site-specific analysis.

Mr. Villars will also be helping with soil training courses for designers during the summer.

Review of proposed legislation

Roger outlined H.696 which proposes allowing engineers, and only engineers, to prepare designs for sites that do not meet the minimum site limitations provided they certify that the system will function without surfacing. Roger also noted the introduction of H.581 which eliminates state permitting authority related to connections to municipal water and wastewater systems, H.640 which extends public trust doctrine to the 10 year flood level, H.718 which allows municipalities to have more stringent rules, and H.722 which extends the public trust doctrine to all groundwater.

Appendix A

2003 Legislative Report

Roger provided copies of the report that was filed with the House and Senate Natural Resources Committees as required by statute to each committee member. Roger reviewed the report with the House Natural Resources Committee on 1-22-2004 and noted that the report was well received.

Testimony on S.195

John noted that he and Roger are going to appear at Senate Natural Resources on February 4th. John asked about what the TAC wanted to say. Craig said that we should say that we have gone about as far as possible with the rules without allowing surfacing of effluent. Craig suggested that there could be discussion about seasonal surfacing, placing limitations on the occupancy of a particular house, and storage and dosing concepts. There was discussion about requirements related to surfacing systems and John noted that operational oversight of any disinfection system would be critical.

The committee discussed ways to determine the maximum site capacity. Dave said that trench tests often double or triple the calculated site capacity, in comparison to the desk top hydrochart that was developed, and is a permitted option. Dave said to mention the two-year time of travel concepts that allow for reduction in depth to the SHWT.

Spencer, Steve, and Dave suggested doing some springtime visits to operational systems. This could be useful, though it is difficult to find people willing to allow examination of their systems.

Gail noted that Title 18 of the Health Statutes includes language on public health hazards, which has historically been interpreted by local health officials to mean surfacing septic systems are health hazards. Any acceptance of surfacing effluent might conflict with Title 18.

Review of Minutes

The minutes of the January 6, 2004 meeting were reviewed an approved.

Status of rule revisions

John noted that in preparing the 2003 Legislative report he found a reference in the April 10, 2003 minutes that the rules were almost ready to move forward and only needed the town delegation piece to be completed. It is now 9 months later and it is still not done. The Committee supports moving forward with the rules immediately even if the delegation part is not done. Roger noted that delegation is part of the statutory mandate and needs to be completed and included in the rule revisions.

Future meetings

It was decided to meet on April 13th, May 11th, and June 8th.

Appendix A

March 9, 2004

Members Present:	Roger Thompson	Justin Willis
	Jeff Williams	Alan Huizenga
	John Forcier	Phil Dechert
	Rodney Pingree	Craig Heindel
	Dave Cotton	Gerry Kittle

Others Present: Chris Thompson

Scheduled Meetings:

April 13, 2004	1-4 PM	100 Stanley Hall
May 11, 2004	1-4 PM	107 Stanley Hall
June 8, 2004	1-4 PM	100 Stanley Hall

Review of Agenda

The agenda was reviewed and accepted.

Review of Minutes

The minutes of the February 3, 2004 meeting were reviewed and approved.

Legislative Report

John reviewed his presentation of the Second Annual Report to the Senate and House Natural Resources Committees. John provided a copy of the handout he used in his presentations. John noted that there were at least a couple of bills aimed at changing the status quo and there is dissatisfaction over the lack of progress on the rule revisions.

S.249

S.249 was voted out of Senate Natural Resources and sent to Senate Appropriations. John noted that Senator Julius Canns and Senator Gerry Gossens, among others, thought that S.27 of the 2002 sessions was going to "solve the problem" of unbuildable lots, at least to a large degree. John and others noted that all of the testimony was that the rules would not allow construction on all lots. Sen. Gossens indicated that S.249 was a place holder bill and while he hoped that ANR would make significant changes in the rules to address the problem, the bill would be available for legislative use to impose a solution if a suitable response was not made by ANR.

John said that Gary Fern and Gary Gossens were the principle authors and that Gary Fern's intention was to create more freedom for the engineers. John noted that people believe that the Desk Top Hydro Chart is now being treated as if it were a rule and that requiring innovative systems to come through the TAC could lengthen the time for approval. John passed along

Spencer Harris's object to the elimination of performance based designs by site technicians. It was noted that the presentation by John and Gary Fern on S.249 to the House Natural Resources was based on a marked up version of what passed the Senate NR Committee and that the engineers were proposing several revisions. The revisions included allowing site techs to continue to do any work they currently do, removal of the requirements that engineers have enough insurance to cover the cost of the total development in case the engineer made a mistake and it was later determined that no system could be installed to keep the effluent below the surface of the ground, removes the restriction to SFR use only, require the inspections be done by an engineer independent from the designer instead of an inspector licensed by the Secretary, removes the language stating that the Secretary defines the monitoring requirements, changes the requirement that the system keep the effluent 6" below the surface to not surfacing, and deletes the section that allows towns to have more stringent rules than the state regulations.

Dave noted that the Desk Top Hydro Chart was supposed to be binding on the Agency staff in the sense that a project that complied with the requirements in the chart is to be approved. He also noted that the chart is only the starting point and several more advanced techniques can be used if the simple approach did not show sufficient hydraulic capacity. Dave also noted that the basic problem was clay soils and flat clay soils are always going to be a problem when trying to keep the effluent in the naturally occurring soil. He suggested that we should do a show and tell for the legislators so they can better understand what the issues are.

John noted that some engineers are still concerned about fines being imposed on designers as part of the enforcement of violations. The concern is that a penalty can be imposed even if there was no intent to violate the rules, so a mistake could be punished the same as malfeasance.

John noted that Senate NR included the ability for towns to have more stringent rules because of a request from VLCT and added several provisions to the rules at the request of VNRC. John said that Sen. Gossens indicated the bill as voted out by the committee was a wish list agreed to in order to get it out of the committee.

The TAC did a walk through of the bill and agreed the prescriptive definition was intended to include the performance-based approach in the existing rules. John was asked if insurance companies would provide insurance for the engineers certifying systems on non-compliant sites. John said they would if the design was to industry standards. Dave noted that the industry standard would be the rules or something along the lines of the Ten States Standards.

Roger asked if the TAC would comment on S.249. John thought the time would be better spent on fixing the rules. Dave said he thought the committee needed to talk about the issues in S.249. Phil asked if there was anything in the bill that the TAC supports.

The committee decided to look at some of the issues. The committee does not support more restrictive rules at the town level.

The committee decided not to take a position on whether all designers should have insurance.

The majority of the committee does not support creation of a subcategory of site evaluations limited to site technicians.

The committee also looked at other issues and supports the proposed language to change the requirements for grease traps.

Dave asked about the two-year time of travel concept proposed by the TAC. Under this approach the vertical separation to the SHWT would be eliminated for some fine grained, deep soils provided the applicant owned or controlled all of the land within a two-year time of travel zone. Dave suggested that disinfection should be allowed in lieu of the two-year time of travel requirement. The majority of the committee did not endorse this concept because of concerns about reliability and effectiveness, though the concept of disinfection is still of interest to the TAC.

John said that he was arranging some addition soil training courses at VTC for May 14th and June 15th with Tom Villars assisting.

Dave asked if the language related to springtime monitoring should be updated as part of the rule changes, considering the length of time the rule changes are taking.

Feedback

Dave observed that the Agency had been limiting some of the possible revisions to the rules in order to have a small number of changes that would implement the statutory changes and not get bogged down in the process, but that now the commissioner was adding some changes that he wanted to have implemented quickly.

Appendix A

Revised May 25, 2004

Members Present:	Roger Thompson	Phil Dechert
	Craig Heindel	Gerry Kittle
	Bernie Chenette	Allison Lowry
	Barb Willis	Gail Center
	Steve Revell	Alan Huizenga
	Spencer Harris	John Forcier
	Rodney Pingree	
Others Present	Frank O'Brien	Chris Thompson

Scheduled Meetings:

May 11, 2004	1-4 PM	107 Stanley Hall
June 8, 2004	1-4 PM	100 Stanley Hall

Review of Agenda

The agenda was reviewed and accepted.

Review of Minutes

The draft minutes of the March 9, 2004 meeting were reviewed. Gary Gossens should be Gerry Gossens. John asked that Dave's remarks about the delay in rule making be included in the minutes. Dave had noted that the Department was limiting the subjects to be included in the next rule making but is now including the Commissioner's "favorites".

Systems Freezing and Distribution Holes Up or Down

There was a brief discussion about systems freezing during the past winter. There were only a couple of systems that were known to be definite problems and the cause is not clear. Dave Marshall's system did freeze but it was installed very late in the season. Some consultants are still concerned that building the system with the holes pointed up causes problems. Steve says he hears that some people design with the holes up but have the holes installed pointed down.

Legislative Update

The language for changing the grease trap requirements has been attached to a fee bill related to State Conservation Camps (H.763) and is expected to pass soon. There is talk of adding language to some bill that will allow future construction of a single family residence on a pre-existing or existing exempt lot based on a town permit, even if the construction occurs after November 1, 2004. If not included in legislation, it may be included in the rule revisions.

S.286 was also briefly discussed. S.286 is one of the permit reform bills and includes

provisions making all Agency permits subject to public notice and hearing requirements. The notice requirements include posting a sign on the property. Phil wondered what happens if the sign is stolen during the application and review process. The bill also consolidates all appeals into the environmental court system.

Gerry asked about the status of S.249. Roger said that it is still in Senate Appropriations, but could be called up at anytime.

Rules Update

Roger said that a lot of the rule redrafting has been completed with the rest to be done in the next few weeks. The delegation issues have still not been totally resolved and he is waiting for time with Anne and the Commissioner. John said that the TAC had decided that the rules should not be held up by this one topic. Roger said that delegation was one of the two major changes required by statute and it was unlikely the rules would be sent forward without it. The Commissioner has directed that the rule making process move forward as quickly as possible. It is expected to take about 3 weeks to get to the ICAR process and then about 4 months to complete the process.

Scanning

Roger reported that the scanning of files was proceeding well and would be mostly done by the end of the year. He also reported that the conversion of microfilms to electronic format was not going well and some other approach would be required. These records are important because towns will need copies in order to run the delegation program.

Innovative System Update

Frank reviewed the progress on evaluation of the Enviro-Septic and Infiltrator systems. Dave Presby has submitted a report of various testing results. Many of the results are favorable, but there are some concerns about the test protocol and that the testing and report writing were not true third party results. Frank and Bernie reviewed the presentation that Mr. Presby had made a few days earlier. Bill Evans, NH regulator attended the presentation by Mr. Presby and supported the system. NH has installed many thousand systems and is happy with their performance based on lack of surfacing. Frank reviewed the need for a testing protocol which he will be working on for use by Mr. Presby. This protocol would also apply to the Infiltrator system. Frank noted that the EnviroSeptic system depended on serial distribution, rather than pressure distribution. The testing completed so far indicates that within a segment of the pipe the distribution is quite even because the fabric forms a restrictive barrier that quickly results in a ponded water level the length of the pipe. It was noted that there should be some arms length third party testing as the current report was written by Mr. Presby's daughter-in-law which creates the appearance of a conflict of interest. Frank will also be checking to see that all of the test data has been submitted. The information that has been submitted was not collected until the system had been in operation for several months.

Frank also reviewed the national regulator's conference. He noted that there is still little

information coming out about viruses. He also noted some tension between Siegrist and Tchobanoglous on whether we should be granting reductions in disposal area requirements.

Training Sessions

John noted that there would be additional training sessions at VTC on May 14th and June 15th for engineers and others wanting a refresher on soils identification.

Appendix A

Members Present:	Roger Thompson	Craig Heindel
	Phil Dechert	Kim Crosby
	Spencer Harris	Bernie Chenette
	John Forcier	
Others Present:	Chris Thompson	Frank O'Brien

Scheduled Meetings:

June 8, 2004	1-4 PM	100 Stanley Hall

Review of Agenda

The agenda was reviewed and amended to add topics on scanning of files and feedback.

Review of Minutes

The minutes of the April 13, 2004 meeting were reviewed and amended. John asked the minutes reflect Roger's comment that the Commissioner had said to proceed as rapidly as possible on the rule adoption and that it was expected to take about 3 weeks to get to the ICAR process.

A section will be added with the report Roger gave on the scanning progress.

John's statement on the dates of training at VTC will be included.

The spelling of Tchobanoglous will be corrected.

Legislative Update

H.763, which contains the grease trap language, is not moving. It is in Senate Natural Resources and is not expected to emerge, as there is opposition to making rule revisions in statute.

S.249 will be considered by the House Natural Resources Committee. The committee discussed taking positions on the bill. John said that because there was not a quorum the committee should not vote. It was decided that the vote at an earlier meeting that opposed any reduction in what site technicians were authorized to do, could be mentioned to the House committee in agency testimony.

Rules Update

The rules that will be sent to ICAR will include the provisions for a two-year time of travel

management zone, for the storage and dose approach, and for revisions to the grease trap requirements.

John noted that the TAC had supported moving forward with the rules without a section on town delegation, if inclusion would slow the process. John asked if it had been decided to include the delegation and Roger responded that it remained his understanding that the delegation language was a core piece of the rule revision. John asked what version of the delegation language was in the draft, and Roger replied that it was his version that had been reviewed and accepted by the TAC. The commissioner has some concerns that the draft is too detailed and might be hard to implement.

Spencer asked how long from when LCAR takes action until the rules are effective. Roger said he thought it was about 2-4 weeks.

Presby EnviroSeptic Pipe

Frank gave a presentation of the report of the testing done in Canada and outlined how the system was constructed and how the testing was done. The committee expressed concerns that the construction of the pipe and stone portion was not "real world" in that there is 24" of cover instead of the maximum 12" allowed under the rules, the design interferes with any sidewall drainage, and prevents any air movement to the bottom of the system. The design of the EnviroSeptic was also not as would be proposed for installation as a single pipe was feeding a 42" wide area instead of the usual 18". The additional sand might affect the level of treatment, as the wastewater would be held in the sand by capillary action longer. John, Bernie, and Craig all said the design as installed was not equivalent. The committee suggested looking for test data from pipe and stone systems constructed in accordance with the rules and comparing the data to the test results. If they are similar, it might be possible to conclude that the variances from normal design standards had little or no effect on the treatment in pipe and stone systems.

Feedback

John asked what a "round" of site tech testing consisted of. Roger said it was the written "A" exam, the field exam, and the written "B" exam.

Approved Minutes of the Technical Advisory Committee Meeting
July 27, 2004

Members Present: Bernie Chenette Alan Huizenga

	Lance Phelps	Steve Revell
	Gerry Kittle	Rodney Pingree
	Spencer Harris	Phil Dechert
	John Forcier	Barb Willis
	Jeff Wennberg	Dave Cotton
	Roger Thompson	
Others Present	Frank O'Brien	Chris Thompson
	Anne Whiteley	

Scheduled Meetings:

September 7, 2004	1-4 PM	Mad Tom Notch Room
October 12, 2004	1-4 PM	Appalachian Gap Room
October 26, 2004	1-4 PM	Mad Tom Notch Room
November 9, 2004	1-4 PM	Mad Tom Notch Room
December 7, 2004	1-4 PM	Mad Tom Notch Room

Review of Agenda

The agenda was reviewed and accepted.

Review of Minutes

The draft minutes of the May 11, 2004 meeting were reviewed and approved.

Cancellation of June Meeting

Roger reviewed the decision to cancel the meeting. Several members had e-mailed indicating that they would not be able to attend. Some of the e-mails did not reach Roger until late in the day before the meeting. When it became apparent that very few people would attend, Roger cancelled the meeting after consulting with Chris.

Meeting between some TAC members and Jeff Wennberg

John reviewed the process. Jeff attended an ACEC meeting when John was present and John noted his frustration with the slow pace of getting rules adopted. John indicated that Jeff suggested a meeting with a small group to determine how to get the process back on track. John contacted Craig, Steve, and Dave; and John, Craig, and Steve met with Jeff about 2-3 weeks later. Steve said that much of the meeting was devoted to working out a schedule for getting the rule adoption process moving. Steve noted that it was a little uncomfortable having a select group without the main group being aware of the meeting. Alan noted that he was concerned when he heard about the meeting after the fact. It was suggested that an executive committee should be created for fast response situations and that a notice of proposed meetings involving a limited number of TAC members would be circulated by e-mail to all members so they would know what was happening.

At this point Jeff arrived and confirmed that he had suggested the meeting. There was no desire to exclude or offend anyone. Things appeared to be off the rails and John, having brought the issue up, seemed to be the point person on grievances. The purpose of the meeting was to try and make TAC as effective as possible. There was a concern that some members might not be willing to continue if the process became stalled and so the group brainstormed on how to move forward.

Lance supported the idea of an executive committee in situations when a full meeting would be impracticable.

John said that other issues were raised, including:

- Who should chair the meetings? Roger is running the meetings and that seems to be OK.
- There should be more subcommittee work
- There should be 2 goal setting meetings, one before the legislative session and one right after
- Challenged Jeff to have the state technical staff attend the soils course arranged by ACEC so everyone will be on the same page (John noted that Craig had attended an earlier session because he felt that even he could learn something new. Tom Villars will do two more sessions. Jeff supports the idea of a mixed group of designers and regulators)

Spencer said that he would like to see the state do more soils training courses, similar to those done in years past in conjunction with the site tech testing program. Jeff asked about why this was dropped and Roger noted it was because of workload. The Division had reduced from two hydrogeologists to one and that person had taken on the Underground Injection Program as additional duties. It was noted that the proposed rule update includes a requirement for continuing education for site technicians and that the state will be obligated to ensure the training is available. Soils courses such as those arranged by ACEC will count towards the requirements.

Alan supported the earlier comments related to forming an executive committee, noting that during the legislative session there are short notice requests by legislators for testimony from TAC members.

Steve supported the use of subcommittees as a way to get more technical work done.

John asked that the minutes include the list of subcommittees and their members along with a request of whether the existing members wished to remain on the committees.

ICAR

Roger reviewed the existing status of the ICAR (Interagency Committee on Administrative

Rules) process. There will be a meeting of the ICAR Committee on August 9th. This will be followed by a filing with the Secretary of State who will publish newspaper notices twice. After that, there will be five meetings around the state during the week of September 13, 2004. After the meetings a responsiveness summary will be prepared for all of the comments received at the meetings or made in writing directly to WWMD. The summary and the revised draft of the rules will then be filed with LCAR (Legislative Committee on Administrative Rules) who will arrange for a meeting to review and discuss the proposed changes. After any LCAR issues are resolved the rules will be filed with the Secretary of State and become final after 15 days. The agency is aiming for early November to have the rules final, but some of the time frame is controlled by others.

Roger walked through the list of proposed changes that had been e-mailed to the TAC earlier and discussed each section. Spencer noted strong objections to allowing construction based on town permits in lieu of compliance with state rules after November 1, 2004. He said that the quality of work varies tremendously from town to town, with some towns accepting anything a designer will submit. He also noted that this would not result in universal jurisdiction at a time certain, which was one of the main goals of the TAC for many years. Steve said that this extension was important to many legislators. Jeff said that this approach would treat town permits the same way as old state permits, some of which are not very good in comparison to current state approvals.

Spencer asked who would determine the validity of the town ordinance and compliance of the town permits with the ordinance. Roger replied this would be a town decision. Anyone objecting to a town issued permit would need to work with the town to resolve the issue. Spencer noted that this feels like another loophole in the rules.

Lance noted that he still had a couple of questions about the grease trap section. There is no definition of “limited service kitchen” and one or two places are not clear about what is required. He will submit some comments and changes can be made as part of the public process review.

The delegation section was briefly discussed. Jeff noted that despite his preference, he had ultimately supported the agency position that delegation will be an all or nothing approach. While allowing towns to take just the municipal part, or even just the soil-based part of the rules made a lot of sense to him, it would defeat a bigger goal of not having to get both a state permit and town permit for the same project. The need for two permits would arise when a project had a water system regulated by one entity and a wastewater system regulated by the other.

Jeff also noted that for future rule revisions, Wibs asked that TAC complete its review prior to her doing the final agency review.

Meeting Schedule

The schedule for the next several meetings was arranged.

Presby EnviroSeptic

Frank gave a quick update saying that we had received some more information and based

on what we had seen we are inclined to grant some reduction in size and to grant the request to not require pressure distribution. This is dependent on getting and reviewing some start up information that was mentioned in the test report for the project in Canada but which has not yet been submitted.

Drip Disposal Systems

Frank reviewed the conference he attended in Indianapolis a few weeks ago. There was a lot of information exchanged relating to freezing concerns and maintenance concerns. A subcommittee was formed with Frank, Roger, Dave, Steve, and Alan asking to participate. Any other TAC members are welcome and Roger will circulate a notice and then arrange for a meeting schedule.

Tom Villars' comments on hydro chart

John noted that Tom had reviewed the hydro chart and suggested that he would have grouped some of the soils differently. It was noted that the grouping was selected for a particular purpose, but it seemed like a good idea to get some feedback from Tom to see if the chart can be improved.

Agenda

John asked that the agenda for the next meeting include topics on the formation of an executive committee and on updating the subcommittees.

Subcommittees

Hydrogeology - Allison Lowry, Craig Heindel, Dave Cotton and Steve Revell.

Training subcommittee - John Forcier, Roger Thompson, Allison Lowry, Dave Cotton, Barbara Willis and Marilyn Davis.

Licensed designers - Spencer Harris, Gary Fern, Alan Huizenga for Lance Phelps, and Gerry Kittle.

Well driller's knowledge checklist - Jeff Williams, Rodney Pingree, Roger Thompson, Bernie Chenette and Steve Revell.

Interested in the delegation rules - Spencer Harris, Gerry Kittle, Kimberley Crosby, Phil Dechert, Gary Fern and Alan Huizenga
Drip Disposal – Frank O'Brien, Roger Thompson, Dave Cotton, Steve Revell, Alan Huizenga

Appendix A

Members Present:	Roger Thompson	Bernie Chenette
	Gail Center	Jeff Williams
	Gerry Kittle	Spencer Harris
	Steve Revell	Lance Phelps
	Phil Dechert	Allison Lowry
	John Forcier	Dave Cotton
Others Present	Chris Thompson	Frank O'Brien

Scheduled Meetings:

October 12, 2004	1-4 PM	Appalachian Gap Room
October 26, 2004	1-4 PM	Mad Tom Notch Room
November 9, 2004	1-4 PM	Mad Tom Notch Room
December 7, 2004	1-4 PM	Mad Tom Notch Room

Review of Agenda

Jeff asked that a discussion of the transfer of review of NTNC systems from WWMD to WSD be added.

Review of Minutes

The draft minutes of the July 27, 2004 were reviewed and accepted. It was noted that the list of subcommittees should be updated.

Bridport Meeting

Chris reviewed her participation in the meeting. Bridport asked for a meeting with the Governor, ANR staff, and legislators about a new, shared highway garage. The meeting was held at the site with Gov. Douglas, Sec. McLain, Commissioner Wennberg, David Swift, Ray Dean, AOT staff, and about 40 other people being present. The original request seemed to be about differences of opinion on site conditions and regulations related to the particular project. Chris determined that ANR and AOT staff actually agreed on the soil conditions at the site and had agreed that based on some groundwater monitoring there was a choice of building a leachfield offsite or just using a holding tank located on the site. Town officials stated that they had not been told that a holding tank could be used. The focus of the meeting, however, was mostly about the septic rules in general. People at the meeting claimed that during the 2002 legislative session, when the legislature closed the 10 acre exemption, ANR officials promised that the 2002 rules would fix everything by allowing systems that would work in Addison County. Commissioner Wennberg handed out a list of proposed rule changes that are currently moving through the rule adoption process. Chris noted that some legislators said they would propose new legislation during the coming session, similar in nature to S.249 of the 2001-2002 session, because they want to see "big" changes. After the meeting Chris talked with a couple of people and heard that there are systems that are working in Addison County. Chris asked if TAC should arrange for a survey

of these systems. Chris also raised the possibility of using the garage site as a test of some innovative system and indicated that ANR would like to try. She noted that in subsequent discussions with Roger that because of the very small flows expected from the garage it might not show if the system would be suitable for other users.

Spencer noted that the Addison Independent published comments that were misleading in stating that the people went away from the meeting with the understanding that big changes are on the way.

What about existing systems and are they working?

Lance noted that Stan Corneille, as part of the old onsite program had done a study of existing systems in Addison County in the late 1970s and had found that many of the systems appeared to be functioning properly. Many of the systems in the report were only receiving flows that were significantly less than design flows. Chris asked if the existing design flows are too high; Steve replied they are not. Average numbers will always be lower than design flows because design flows are based on having most systems work, not just ones with average flow. Lance noted that Addison and Bridport have many unregulated systems. Steve added Shoreham to that list.

Bernie said that at some point a decision has to be made on whether wet toes are acceptable.

Lance mentioned the Addison County Demonstration Project, where the four systems that were installed seemed to function, except for some clogged outlet filters or clogged orifices in the pressure distribution systems.

Lance noted that in some situations, the best choice is to identify the best soil areas and do community systems instead of individual onsite systems.

What about the suggestion that legislation along the lines of S.249 be adopted?

Spencer had heard that some engineers would not be supportive because they could not get insurance coverage. John replied that insurance coverage can be obtained in some circumstances, and while his company would probably not do designs using the S.249 approach some companies would. John noted that the approach seems pretty risky to him, from the engineer's perspective.

Frank commented that it seemed to him that the bottom line is that systems that could not meet the current standards would be expected to have some surfacing unless the usage of the system was low.

Steve said that S.249 implied a lifetime guarantee. He was also concerned that the legislature would be open to some approach usable by engineers while excluding site technicians.

Appendix A

Status of Rule Adoption

Roger gave a quick update on status. John noted that the web link to the Water Supply Rules needed to be fixed. Lance wants to include some comments about the grease trap language. John wanted to know if large changes could be made to the rules while they are in the approval process or do they have to start over. Roger said that it depends on what the changes are. If they are new concepts, it might require a new start. Lance wanted to know if the two-year time of travel and store and dose concepts can be used by class A site techs. Roger will review the rules. These should be considered to be site modifications and limited to Class B site techs. Lance suggested that seasonal system be considered. Spencer asked about clarification for conversion from seasonal to year round use.

Replacement of Committee Member

Kim Crosby is leaving her position in Warren to take one working for the state. We should look for a replacement if Kim does not want to continue.

Executive Committee

John had made a suggestion at a previous meeting to have an executive committee and the idea was reviewed. The EC would be available for quick response to legislative requests for information or legislative committee testimony. It was decided that John, Steve, Lance, Phil, and Roger would be primary members with Chris, Bernie, and Spencer as backup.

It was decided that TAC would ask the Commissioner to arrange a meeting with the legislative committees prior to the beginning of the session. The meeting should be in Montpelier on a Monday.

Subcommittee revisions

Marilyn Davis, Kim Crosby (if she does not want to continue), and Gary Fern should be removed from the lists. The note in the licensed designers category that Alan is the backup for Lance should be removed.

Drip Disposal Subcommittee

Frank said that the committee had not met as of yet. Steve noted that the package of information Frank circulated to the committee was good material to start with.

Dave and Steve commented that they had each designed a few drip disposal systems on difficult sites. One system Dave designed involved a raised bed and included disinfection as a safety factor and was installed in Panton.

Training

John asked that the Division arrange for the training sessions involving engineers and

regional office staff that will be provided by Thom Villars. John said just pick a couple of dates in October.

Enviro-Septic update

Frank said Mr. Presby had submitted some additional test information that was collected during the initial startup of the test systems in Canada. The numbers seem in reasonable conformance with the data collected after the system had been in operation for a period of months. Frank is working on reviewing the draft design manual that would be incorporated into the approval letter.

Feedback

John asked if TAC should prepare a response to the Bridport meeting. He stated that he testified there were not fixes for all sites and that the proposed legislation would not create a total fix.

Dave was supportive of arranging a bus tour of Vermont systems, featuring Addison County systems. The tour would be for legislators and similar in nature to the one that went to Rhode Island so that everyone could see systems that have been permitted and what they look like after installation.

It was suggested there should be a meeting where designers are encouraged to meet with TAC and offer suggestions on how to improve the rules.

One thought is to help municipalities think about buying areas within their town that are suitable for sewage disposal and organizing some decentralized community systems that people could connect to. Another is to create a list of things that have changed. John suggested including a brief description of the proposed rule changes along with TAC involvement. Phil recommended explaining how the changes could be used to deal with some problem sites.

John mentioned that one type of continuing education would be sessions reviewing the status of innovative systems, such as the one held at the Vermont Technical College a few years ago.

There should also be training sessions to help people use the rules to the fullest extent possible.

Appendix A

Executive Committee

John Forcier, Steve Revell, Lance Phelps, Phil Dechert, and Roger Thompson
Alternates – Chris Thompson, Bernie Chenette, Spencer Harris

Subcommittees

Hydrogeology - Allison Lowry, Craig Heindel, Dave Cotton and Steve Revell.

Training subcommittee - John Forcier, Roger Thompson, Allison Lowry, Dave Cotton, and Barbara Willis.

Licensed designers - Spencer Harris, Alan Huizenga, and Gerry Kittle.

Well driller's knowledge checklist - Jeff Williams, Rodney Pingree, Roger Thompson, Bernie Chenette and Steve Revell.

Interested in the delegation rules - Spencer Harris, Gerry Kittle, Phil Dechert, and Alan Huizenga

Drip Disposal – Frank O'Brien, Roger Thompson, Dave Cotton, Steve Revell, Alan Huizenga

Approved Minutes of the Technical Advisory Committee Meeting
October 12, 2004

Appendix A

Members Present:	Roger Thompson	Phil Dechert
	Jeff Williams	Gail Center
	John Forcier	Spencer Harris
	Allison Lowry	Alan Huizenga
	Steve Revell	Craig Heindel
	Bernie Chenette	
Others Present	Frank O'Brien	Chris Thompson
	Scott Stewart	

Scheduled Meetings:

October 26, 2004	1-4 PM	Mad Tom Notch Room
November 9, 2004	1-4 PM	Mad Tom Notch Room
December 7, 2004	1-4 PM	Mad Tom Notch Room

Review of Agenda

An item related to planning a legislative presentation was added. Gail asked to be added to the Well Driller's subcommittee.

Review of Minutes

John asked that the language in the feedback be corrected in relation to his comments. He asked that it read "He stated that he testified there were not fixes for all sites and that the proposed legislation would not create a total fix."

Spencer asked his comment about S.249 be corrected to state that he had heard that some engineers would not be supportive.

Steve noted that it was Dave's system that was installed in Panton

It was noted that Jeff should be listed as an alternate on the Executive Committee.

Status of Rules

The Agency has completed the round of public meetings and is working on the responses to the comments. A significant number of comments are from the engineers and their organizations. There are several comments that the proposed rules do not follow the intent of S.27, which the Agency disagrees with. They also submitted comments that site technicians should be limited to residential systems, should be prohibited from specifying advanced treatment systems, and from designing water systems for non-residential buildings. There were a few comments that the rules should be withdrawn and the process restarted. John noted that the comments related to withdrawing the rules were not supported by the engineers' groups. Steve suggested it is pretty late to bring up these issues.

John indicated that some of the concerns about the rules are related to the fact it has taken two years to get to this set of revisions and that some legislators feel they were promised more radical changes than are proposed. He also noted that TAC does not represent the engineering community. John noted that some engineers are concerned about site technicians moving from water systems serving only single family homes to publicly occupied buildings. John also noted that there is concern among the engineering groups that the site technicians might start doing work prior to having the training needed. There are concerns that continuing education might or might not cover the needed information.

Craig said he felt like there must be a parallel committee. TAC has spent most of their time working on trying to solve the Addison County issues. It feels like a miss-characterization to suggest TAC has not been productive. John said that because the rules have not been adopted yet, people feel like not much has actually been done, and there are no "magic systems" even though they don't exist. Some legislators are saying they have "heard" that a fix is on the way.

Craig noted that the question is still whether surfacing systems can be allowed, at least if the goal is to provide an number of systems as options for clay soils. Steve said that TAC had already spent a lot of time on this issue. John said that TAC needs to do a better job of communicating the results of our work. Spencer suggested that legislators should attend TAC.

Review of Status of Next Round of Rules

Anne has done some work on these but has not finished yet. Spencer asked if there is time to look at the "holes up" question and the mound sand specification. Roger suggested it would be possible. John suggested that the subcommittee on hydrogeology look at this.

Tour for Legislators

Dave Cotton sent an e-mail with a suggested outline with some classroom work and some field visits. The field visits might include some in Charlotte where they have been dealing with a large group of camps, including many converted to year round use. The thinking is to try for second or third week in November. Craig suggested that the trip should focus on systems that meet the rules, otherwise legislators will think the systems they see can deal with sites that don't meet the rules. Just looking at "black boxes" would not help much. Steve noted it is important to not mislead legislators. John suggested including a visit to a site with a drip disposal system so the legislators can see what one looks like. John also noted that legislators are saying they want to extend the November 1, 2004 deadline. The committee started to feel that field visits might be hard to arrange and Phil suggested doing a virtual tour.

It was decided to form a subcommittee for the legislative tour. It was decided Dave Cotton would want to be on the committee, that Gerry Kittle would be invited but might not have time, that Phil would help, and that Roger would help. Also possible help might come from Adam Lougee and Kevin Behn (Addison RPC). Craig and Steve might lead any presentation.

Water Supply Chapter for the Next Set of Rules

Roger reviewed the concepts of adding water supply rules to the Wastewater System and Potable Water Supply Rules. Before the 1996 rules, some water supply information had been included and references were made to other documents for technical details. After 1996 all of the water related information had been collected into the Water Supply Rules. The Regional Office Program administered the rules for regulated water supplies that are not Public Community Systems. The proposal is to put the technical specifications for regulated water supplies that are not regulated as Public Water Supplies back into the Wastewater System and Potable Water Supply Rules. The handout entitled Subchapter 6, is the first attempt at pulling together the required information.

Scott Stewart, representing the Water Supply Division, reviewed his current work on updating appendixes 11 and 12 of the Water Supply Rules. He wants to match the definitions in the rules with the language in Chapter 48 of 10 V.S.A. He would like to add some information on shallow wells and update the rules in regard to new construction techniques.

Alan asked why we are spending this much effort to separate the Water Supply Rules into two parts. He finds using the Water Supply Rules fairly easy and would probably find having some of the water supply information in two different documents not as useful as the current format.

Scott noted that he is working on updating Appendix 11 and would like TAC to work on a coordinated schedule. Chris said that WWMD and WSD would work on this and bring a more finished document back to TAC.

Bernie suggested that shallow wells should be generally discouraged.

There was no clear answer as to whether the committee supports a single water supply document or the inclusion of the information for regulated private wells into the regional office rules.

Feedback

Bernie noted that Scott is doing a great job. Jeff asked that the well drilling community be kept in the loop.

Appendix A

Executive Committee

John Forcier, Steve Revell, Lance Phelps, Phil Dechert, and Roger Thompson
Alternates – Chris Thompson, Bernie Chenette, Spencer Harris, Jeff Williams

Subcommittees

Hydrogeology - Allison Lowry, Craig Heindel, Dave Cotton and Steve Revell.

Training subcommittee - John Forcier, Roger Thompson, Allison Lowry, Dave Cotton, and Barbara Willis.

Licensed designers - Spencer Harris, Alan Huizenga, and Gerry Kittle.

Well driller's knowledge checklist - Jeff Williams, Rodney Pingree, Roger Thompson, Bernie Chenette, Gail Center and Steve Revell.

Interested in the delegation rules - Spencer Harris, Gerry Kittle, Phil Dechert, and Alan Huizenga

Drip Disposal – Frank O'Brien, Roger Thompson, Dave Cotton, Steve Revell, Alan Huizenga

Approved Minutes of the Technical Advisory Committee Meeting
October 26, 2004

Members Present: Roger Thompson Rodney Pingree

	Barb Willis	Steve Revell
	Allison Lowry	Phil Dechert
	John Forcier	Dave Cotton
	Craig Heindel	
Others Present:	Chris Thompson	Frank O'Brien

Scheduled Meetings:

November 9, 2004	1-4 PM	Mad Tom Notch Room
December 7, 2004	1-4 PM	Mad Tom Notch Room

Review of Agenda

An item related to the soils course arranged by ACEC was added.

Review of Minutes

The draft minutes of the October 12, 2004 meeting were reviewed. The spelling of Mr. Behn's name needs correction. John wanted to clarify one point from the meeting. He said a concern by engineers is that site technicians could start doing new types of work prior to having the training needed. The September 7, 2004 minutes were approved as revised.

Status of Rules

Roger reviewed the current status. Final revisions are being made and reviewed by Wibs. The revisions need to be filed with LCAR by tomorrow, October 27th for the November 4th hearing. As soon as the changes are approved by Wibs and filed with LCAR they will be circulated to the TAC. The rules will not be reviewed by the TAC prior to submission to LCAR, as they need to be filed tomorrow.

Soils Course

John said that he had arranged for two sessions of soils training through ACEC. Thom Villars, NRCS, will do the training. The regional office staff will attend along with engineers. The meetings will be November 19th and 23rd. Charlie Grenier will find locations for test pits. Meetings will be at the Best Western in Waterbury. Dave asked if ANR had developed its process for approving continuing education. Roger said not yet, but that it is on the list of things to do.

Two year time of travel approach discussion

Commissioner Wennberg asked that the TAC consider the comments from the public

meetings regarding the requirement that there be at least 20' of silt or clay to protect the bedrock groundwater. The proposed rules include the prescriptive method using 20' of soil but allow for less with a site-specific analysis. Lance said in an e-mail that the concern for cracking of the soil during dry seasons would be reduced when there is a layer of sand over the top. Craig reviewed a page of calculations he had prepared that indicated as little as 2' feet of soil could provide the required two year time of travel in the vertical direction. Dave noted that the number was picked to be conservative to protect against the natural variations in soil conditions. Steve suggested revising to 10' as by that depth the soil is moist enough to be massive and plastic in nature. Dave said he had observed prismatic structure down to more than 5'. Roger asked how often those present determined during the test pit observations that the soil was sufficient to meet the two year time of travel at depths less than 20'. All of the responses were that in most cases at 7-8' the soils were sufficient to provide the two-year time of travel. The group appeared to settle on changing the number to 10', however further discussion related to variability of the soils, even when mapped as silts or clays by NRCS, suggested that some qualifiers would be needed. There was discussion of whether the silt and clay limitation could be modified to include other soil types that would provide the two-year time of travel, and it was decided the TAC should pursue this topic in the future. Dave suggested not trying to make a decision in just a few minutes and therefore retaining the 20' number for the moment. There was further discussion about the ability of the backhoes used for test pits in most cases not being capable of digging more than 13'-15'. It was noted that it would be too bad to reduce the number and then have to add qualifiers or retract the number. The committee agreed to suggest keeping the number anywhere between 15'-20' for the moment, with the expectation that it might be reduced to around 10', maybe with some qualifiers.

Enviro-Septic approval

Frank reviewed the current status. ANR will approve a reduction of up to 50% of the pipe and stone system sizes, but for the moment will not approve sand beds with sloping bottoms except for mound type systems. Dave and Steve had some questions about linear loading rates and distribution of the systems. Frank said that he would double-check the linear loading rates and that a draft approval would be reviewed by the TAC prior to issuing a general use approval for the system.

Legislative tour proposed for first or second week of December

Phil said that he was starting to outline a virtual tour program along the lines of:

A. What is available now? Currently in use are advanced treatment systems; the desktop hydro chart; prescriptive, enhanced prescriptive, and performance based design approaches; and rules allowing for experimental, pilot, and general use approvals.
B. Currently proposed rule amendments that allow for two-year time of travel and store and dose concepts and for the delegation of the rules to towns.

C. Options under consideration by the TAC, including drip disposal, surface discharge, disinfection, and management.

D. Not under consideration by the TAC is the "best fix" concept for new projects

Feedback

Steve reviewed a situation involving an application for a change in use. He had asked about getting approval before the reviewer took some leave and got a response that "I have plenty of time on my clock for that project". Steve observed that this response created an impression that the reviewer did not care about getting the work done, only meeting the performance standards.

Roger said that this was an unacceptable attitude and with a specific complaint he would deal with it.

Executive Committee

John Forcier, Steve Revell, Lance Phelps, Phil Dechert, and Roger Thompson
Alternates – Chris Thompson, Bernie Chenette, Spencer Harris, Jeff Williams

Subcommittees

Hydrogeology - Allison Lowry, Craig Heindel, Dave Cotton and Steve Revell.

Training subcommittee - John Forcier, Roger Thompson, Allison Lowry, Dave Cotton, and Barbara Willis.

Licensed designers - Spencer Harris, Alan Huizenga, and Gerry Kittle.

Well driller's knowledge checklist - Jeff Williams, Rodney Pingree, Roger Thompson, Bernie Chenette, Gail Center and Steve Revell.

Interested in the delegation rules - Spencer Harris, Gerry Kittle, Phil Dechert, and Alan Huizenga

Drip Disposal – Frank O'Brien, Roger Thompson, Dave Cotton, Steve Revell, Alan Huizenga

Approved Minutes of the Technical Advisory Committee Meeting
November 9, 2004

Members Present:	Roger Thompson	Allison Lowry
	Craig Heindel	John Forcier

	Alan Huizenga	Spencer Harris
	Justin Willis	Barb Willis
	Steve Revell	Bernie Chenette
	Rodney Pingree	Phil Dechert
	Gerry Kittle	
Others Present:	Thomas O'Connor	Frank O'Brien
	Chris Thompson	Anne Whiteley
	Karen Horn	

Scheduled Meetings:

December 7, 2004 1-4 PM Mad Tom Notch Room

Review of Agenda

It was requested that the topics of curtain drains and allowing primary and replacement systems for mounds to be in one large system be discussed at a future meeting.

Review of Minutes

The draft minutes of the October 26, 2004 meeting were reviewed and accepted as drafted.

Review of LCAR Meeting of November 4, 2004

LCAR met on November 4, 2004 to review the proposed amendments to the rules. The draft of the rules submitted to LCAR included some revisions related to the comments received at the five public meetings and in the written comments that were received. The language related to the work that site technicians would be permitted to do was narrowed by adding some specific limitations. Class A designers would be explicitly limited to systems not involving; site modifications, use of performance based designs, two-year time of travel systems, or those using the store and dose concept. All site technicians would be limited to designs for domestic wastewater, which might include negligible amounts of compatible non-domestic wastewater. Most of the testimony other than that from the Agency was from professional engineers representing themselves and/or professional organizations. The engineers expressed concerns that the proposed amendments could result in site technicians doing work for which they have not been trained or tested. LCAR was concerned about the controversy, and so after taking testimony, they recessed the meeting until December 2, 2004 when they will further consider the issues. Commissioner Wennberg indicated that the issues that had been raised would be reviewed with the TAC prior to the December 2, 2004 meeting.

Discussion of site technician authority

Anne led the discussion. She reviewed the statutory changes made in 2002 that authorized the Agency to make rules related to what site technicians can do, with the only specified limit

being that the water supplies and wastewater systems be limited to flows not exceeding 1350 GPD. She further noted that the Water Supply Rules required that a professional engineer design any Public Water Supply. Public Water Supplies are those that serve 25 or more people for at least 60 days per year and those systems with 15 or more service connections.

Anne began the discussion by asking what types of wastewater should be allowed in systems designed by site technicians. Craig and Steve indicated they believed there was consensus by TAC that domestic type wastewater was acceptable. John asked if the wastewater should be described as domestic or residential.

At this point there was some discussion of how to proceed with the review. John had a list of topics he wanted to discuss while Craig suggested he would like to have Anne work through her list first. John wanted to make sure all the issues were on the record. Anne reviewed the list of topics she wanted to deal with which covered most of the topics John wanted to include and so it was decided to have Anne proceed.

The group then discussed the definition of domestic wastewater, versus residential, and whether food preparation in restaurant operations should be allowed for site technicians. Allison noted that non-domestic wastewater could be subject to UIC jurisdiction that limits designs to professional engineers. The definition proposed in the submission to LCAR was reviewed. John noted that with a limit of 1350 GPD a school or office building calculated at 15 GPD/person could result in a wastewater system design for 90 students or employees. Roger suggested limiting the wastewater system design to those situations where a site technician could design the water supply which would limit schools and office buildings to less than 25 people. Spencer said he thought that site technicians would not design stand alone commercial projects. Justin said he remembered that they could if the commercial flow was a small portion of the total with residential use being the primary source of wastewater.

Anne asked if the domestic wastewater was different depending on what type of building the wastewater is from. Rephrased, Anne asked what kind of building uses should be acceptable for site technician designs. Justin indicated that he wanted to be able to do private residential systems with 2 or 3 units, with small home occupation type commercial use. Karen said that very small town office building should be included as some town officials she works with are very concerned about having to hire professional engineers. Steve asked John if he supported site technicians doing a small town office. John suggested there should be some limit related to the number of people. Steve also raised the issue of how did we get so far into the rule adoption process before having all of this discussion and suggested these issues should have been raised long ago.

Compromise suggestions were made at this point. John suggested 24 people @ 15 GPD/person for 360 GPD. Roger suggested just limiting at 24 people because of mixed uses of a few bedrooms and some employees. Phil suggested a limit based on the water system not being classified as “Public”. There was additional discussion about what should be allowed as domestic wastewater. A laundry facility would be limited to 2 washing machines @500 GPD each. A restaurant limited to 25 people would be a relatively small flow and the required grease trap can

be sized using a prescriptive method. It was decided that the language related to the inclusion of non-domestic wastewater would be amended. The language will substitute approval by the Secretary for the statement that the non-domestic flow would be negligible. Craig asked John if he could support site technician designs with these limits and John said he could.

Based on this discussion, Anne asked for a show of hands on whether site technicians should be approved for design of systems, including laundry and food preparation uses, if limited to those serving not more than 24 people. There were 11 yes votes and no nays. Steve noted that John had not voted, and John indicated he had abstained. Steve asked John to state his position as a member of TAC. John said he thought the stand-alone non-residential buildings would be the hardest place to get agreement. Spencer asked John if he would be supportive if the stand-alone buildings were limited to engineers. Bernie noted that the proposal just voted on would allow relatively large office buildings based on many office buildings having less than 25 employees. Allison asked what difference it made relative to the nature of the wastewater. Bernie responded that insurance and liability are issues. Steve noted that he had the same types of coverage that some of the engineers have (insurance is not required for engineers and not all engineers have insurance). Anne and Allison asked for an explanation of the difference in the wastewater from residential and non-residential buildings and what the public health risk associated with these designs would be. John suggested the wastewater might have higher levels of BOD and TSS because office buildings usually don't include bathing facilities. Allison asked how the wastewater disposal systems differ in design when serving residential or non-residential. Alan said that they were generally the same design for the same design flow. Karen added that small users believe they should have a choice between a site technician or an engineer and where possible a small user would choose a site technician because that was the cheaper option. Anne asked John to explain the different level of health risk associated with a wastewater system serving residential versus non-residential buildings. John said that with the changes agreed to restricting site technicians to projects with 24 or less people, he personally supports the proposed language, and would attempt to persuade the engineering groups to accept the language.

John then listed his other concerns:

1. the definition of hydrogeologist
2. use of innovative/alternative systems
3. use of the store and dose and of the two-year time of travel concepts
4. the continuing education requirements
5. use of enhanced prescriptive and performance based design

John noted that the response summary included a response to the question of whether a site technician could do a performance based design, with ANR stating that a site technician can do these including the hydrogeologic analysis. These systems, under the current rules and under the proposed amendments, are limited to Class B Designers. A Class B Designer can use the desktop chart. If more sophisticated analysis is required, a qualified hydrogeologist is required. Craig noted that TAC had agreed to the language sent to ICAR and LCAR.

John noted that the responsiveness summary indicated that none of the systems currently approved for general use required a professional engineer to do the site-specific design. Anne asked John which ones should be limited. He did not have a specific list in mind. There was discussion about what happens when the manufacturer does not support the system. The Agency should be notified of lack of response. Frank noted that he was reviewing an advanced constructed wetland concept, which appeared to be a system that is actually redesigned for each site-specific use and would likely require a professional engineer. It was noted that draft approvals of each system are circulated to the TAC for review and comment. John asked if an engineer registered in Vermont should do the underlying engineering for a treatment system.

John discussed the two-year time of travel and store and dose concepts and whether TAC had agreed to allow site technicians to design these systems. It was agreed that the determination of the two-year time of travel must be done by a qualified hydrogeologist. On an 8-2 vote the committee supported adding a limitation that only a professional engineer design store and dose systems.

John asked about the design of enhanced prescriptive and performance based designs by non-engineers. Roger noted that this is existing language already in the 2002 rules. Anne asked John what reasons there would be to limit these systems to only professional engineers. John could not describe at the time what bases three were to limit the use, indicating that it was just a topic for discussion.

John also discussed the continuing education requirements. This issue was a source of concern at the LCAR meeting. The proposed language does not cover professional engineers. Anne said the LCAR committee was concerned about the lack of details on the education requirements. At the suggestion of the TAC, Allison agreed to research requirements in other states. The TAC continues to support continuing education requirements.

Other than the proposed changes noted above, the TAC voted unanimously to support the language proposed to LCAR.

It was decided that John should not represent both TAC and the engineering groups in front of LCAR at the December meeting. Steve was selected to represent the TAC.

Executive Committee

John Forcier, Steve Revell, Lance Phelps, Phil Dechert, and Roger Thompson
Alternates – Chris Thompson, Bernie Chenette, Spencer Harris, Jeff Williams

Appendix A

Subcommittees

Hydrogeology - Allison Lowry, Craig Heindel, Dave Cotton and Steve Revell.

Training subcommittee - John Forcier, Roger Thompson, Allison Lowry, Dave Cotton, and Barbara Willis.

Licensed designers - Spencer Harris, Alan Huizenga, and Gerry Kittle.

Well driller's knowledge checklist - Jeff Williams, Rodney Pingree, Roger Thompson, Bernie Chenette, Gail Center and Steve Revell.

Interested in the delegation rules - Spencer Harris, Gerry Kittle, Phil Dechert, and Alan Huizenga

Drip Disposal – Frank O'Brien, Roger Thompson, Dave Cotton, Steve Revell, Alan Huizenga

Approved Minutes of the Technical Advisory Committee Meeting
December 7, 2004

Members Present:	Roger Thompson	Gerry Kittle
	Spencer Harris	Steve Revell
	Craig Heindel	Rodney Pingree
	John Forcier	Bernie Chenette

Appendix A

Others Present: Frank O'Brien Chris Thompson

Scheduled Meetings:

January 4, 2005	1-4 PM	Appalachian Gap Room
February 8, 2005	1-4 PM	Appalachian Gap Room
March 8, 2005	1-4 PM	Appalachian Gap Room

Review of Agenda

Added the annual report, discussion of meaning of innovative/alternative in relation to systems not seeking approval under general, pilot, or experimental categories, dates for next meetings, and Craig's request that Commissioner Wennberg attend a future meeting for a "big picture" discussion.

Review of Minutes

The draft minutes of the November 9, 2004 meeting were reviewed and accepted as drafted with a clarification of Spencer's comment on site technicians designing projects including some commercial work. John noted that the members of the legislative subcommittee field trip should be added.

LCAR Hearing of December 2, 2004

John noted that he was outnumbered at the meeting, being the lone representative present for the engineering groups. John said that several of the concerns of the engineering community had been addressed since the first LCAR meeting on November 4th. He said that he felt he still got the unresolved issues important to various groups on the table. The main issue is that ANR had not achieved all of the intent of S.27, or at least what many legislators believed was intended, relative to I/A systems and implementation of their use. John said that some consultants are discouraged that the Agency has not allowed more innovative systems and more freedom in design work. John said he felt LCAR had two clear messages that more innovation is needed and that the role and requirements for hydrogeologist needs more definition.

Steve represented TAC at the meeting and affirmed that TAC was in agreement with the Agency's statements related to TAC's support of the proposed rules. Steve noted that one area that LCAR was interested in was the confining language related to systems serving less than 25 people, with one legislator wondering how this would be determined for some uses such as restaurants and convenience stores. LCAR was reassured by all the people testifying that the same decision is routinely made under the water supply rules and was in fact a workable situation.

Spencer wondered if people using the rules are actually discouraged, because he is not hearing this complaint. John said he was hearing it, with a main complaint that it was "an act of

congress" to get something innovative approved. Roger reviewed the general use, pilot, and experimental categories that had been created per language in S.27. John stated that he believed the intent of S.27 was that an engineer could stamp a set of plans and be approved with minimal review by the state.

Spencer asked about last year's legislative action. John replied that S.249 was introduced as a "shot across the bow" to let the Agency know that there was dissatisfaction with progress on use of innovative systems.

Steve said that he thought the Shoreham project was a great example of innovative thinking. The Shoreham project involved a direct discharge permit issued to a municipality that involved advanced mechanical treatment systems, with use of a wetland for the mixing zone. The system was approved as an abatement of the health hazard from several failed systems, but did include capacity for new connections as well.

Craig asked what the Agency took away from the LCAR meeting, with Roger responding that more needs to be done with the I/A systems.

Topics for next rule revision (currently underway)

1. Drip disposal
2. Housekeeping changes
3. Inclusion of policies and procedures
4. Up or down location of holes in pressure distribution systems
5. Mound sand requirements
6. Encourage I/A
7. Changing the 20% slope restriction to 30%
8. Replacing perc test with soil identification approach
9. Defining when effluent is no longer wastewater
10. Disinfection
11. Colorado Rule – reduction in isolation distance to wells based on construction methods
12. Certification and audit approach to permitting
13. Lake water systems

Annual report

Craig will work on this and get a draft out for review. The committee will review at the January 4th meeting. He will include comments on the rule adoption, the usual summary of permits issued and denied, and on the various training and testing completed in 2004. Roger and Frank will work up the information supplied by the Agency.

Defining wastewater

The committee outlined a few thoughts related to the task of determining when the effluent had been sufficiently renovated that it no longer should be classified as wastewater. This would

require the effluent to reach a quality such that the isolation concepts of separation from human contact and the usual isolation distances would no longer be required for health protection.

1. Contact other states for their approach to surface discharges
2. There will be issues if the surface discharge will reach surface water
3. Would you fill your swimming pool with it?
4. Would you drink it?

Feedback

Gerry noted that he appreciated the detailed minutes of the TAC meetings.

Executive Committee

John Forcier, Steve Revell, Lance Phelps, Phil Dechert, and Roger Thompson
Alternates – Chris Thompson, Bernie Chenette, Spencer Harris, Jeff Williams

Subcommittees

Hydrogeology - Allison Lowry, Craig Heindel, Dave Cotton and Steve Revell.

Training subcommittee - John Forcier, Roger Thompson, Allison Lowry, Dave Cotton, and Barbara Willis.

Licensed designers - Spencer Harris, Alan Huizenga, and Gerry Kittle.

Well driller's knowledge checklist - Jeff Williams, Rodney Pingree, Roger Thompson, Bernie Chenette, Gail Center and Steve Revell.

Interested in the delegation rules - Spencer Harris, Gerry Kittle, Phil Dechert, and Alan Huizenga

Drip Disposal – Frank O'Brien, Roger Thompson, Dave Cotton, Steve Revell, Alan Huizenga

Legislative field trip – Phil Dechert, Gerry Kittle, Dave Cotton, Roger Thompson

Appendix B

SUMMARY TABLE OF INNOVATIVE TECHNOLOGIES: Prior to 2002, 2002, 2003, 2004

Copies of the approval letters and contact information for each technology is available at the Agency web site http://www.anr.state.vt.us/dec/ww/innovative.htm

SUMMARY TABLE: INNOVATIVE TECHNOLOGIES
STATUS OF INNOVATIVE TECHNOLOGIES AS OF DECEMBER 31, 2004

Advanced Treatment Systems		
Product	Description	Status
Intermittent sand filter	attached growth aerobic process	Allowed in the Rules
Recirculating sand filter	attached growth aerobic process	Allowed in the Rules
Advantex	textile treatment system	Approved for General Use
Ecoflo Biofilter	peat treatment system	Approved for General Use
SeptiTech	recirculating fixed film treatment system	Approved for General Use
Bioclere	fixed film trickling treatment system	Approved for General Use
Puraflo	peat fiber biofilter treatment system	Approved for General Use
SpecAIRR	reactor treatment system	Approved for General Use
Bio-Microbics FAST	fixed film aerated treatment system	Approved for General Use
Other Devices		
Flout	floating outlet distribution box	Approved as substitute
Orenco Hydro-splitter	mechanical distribution	Approved as substitute
Juggler	septic tank pumping truck	Determined not subject to Rules
Miller septic tank liner	septic tank liner	Determined not subject to Rules
Enviro-Septic (Presby)	request for increase in application rate	Approved for General Use
FRALO SEPTECH polyethylene tanks	polyethylene septic tanks	Approved for General Use
Polylok Effluent Filter PL-122	effluent filter	Approved for General Use
Polylok Effluent Filter PL-68	effluent filter	Approved for General Use
Orenco Fiberglass Septic Tanks	fiberglass septic tanks	Approved for General Use

Appendix B

SUMMARY TABLE: INNOVATIVE TECHNOLOGIES UNDER REVIEW AS OF DECEMBER 31, 2004		
Advanced Treatment Systems		
Product	Description	Status – Date Rec'd
ROTORDISK	rotating biological contactor system	Under review (02/12/02)
SeptiTech	revision to G.U. for seasonal drip disposal	Under review (10/17/03)
Singulair	suspended growth extended aeration	Under review (03/04/02)
Rocky Mountain Pure XL5	modular wastewater treatment plant	Under review (01/12/04)
Open Bottom Ecoflo Biofilter	peat filter with horizontal discharge	Under review (No formal Appl.)
Enviro-Guard	combined process wastewater treatment	Under review (09/13/04)
Clean Solution	fixed film aerated treatment system	Under review (12/14/04)
Other Devices		
Infiltrator	request for increase in application rate	Under review (12/02/02)
Eljen In-drain	request for increase in application rate	Under review (06/18/04)
EnvironEdge fiberglass septic tanks	fiberglass septic tanks	Under review (01/05/04)
Applications for Pilot Use		
Bottomless sand filter	filtrate disposal system	Under review (09/16/03)
Advanced Wetland Treatment System	aerated subsurface-flow wetland	Under review (08/04/04)
Applications for Experimental Use		
None		

Appendix B

SUMMARY TABLE: INNOVATIVE TECHNOLOGIES
CHRONOLOGY OF REVIEWS AND APPROVALS

Prior to 2002

Advanced Treatment Systems

Product	Description	Status
Intermittent sand filter	attached growth aerobic process	Allowed in the Rules
Recirculating sand filter	attached growth aerobic process	Allowed in the Rules
Advantex	textile treatment system	Approved for General Use
Other Devices		
EnviroSeptic (Presby)	gravelless distribution pipe	Approved as substitute
Flout	floating outlet distribution box	Approved as substitute
Orenco Hydro-splitter	mechanical distribution	Approved as substitute
Juggler	septic tank pumping truck	Determined not subject to Rules
Miller septic tank liner	septic tank liner	Determined not subject to Rules

New in 2002

Advanced Treatment Systems

Product	Description	Status
Ecoflo Biofilter	peat treatment system	Approved for General Use
SeptiTech	recirculating fixed film treatment system	Approved for General Use

New in 2003

Advanced Treatment Systems

Product	Description	Status
Bioclere	fixed film trickling treatment system	Approved for General Use
Puraflo	peat fiber biofilter treatment system	Approved for General Use
SpecAIRR	reactor treatment system	Approved for General Use
Other Devices		
FRALO SEPTECH polyethylene tanks	polyethylene septic tanks	Approved for General Use
Polylok Effluent Filter PL-122	effluent filter	Approved for General Use

New in 2004

Advanced Treatment Systems

Product	Description	Status
Bio-Microbics FAST	fixed film aerated treatment system	Approved for General Use
Other Devices		
Enviro-Septic (Presby)	request for increase in application rate	Approved for General Use
Polylok Effluent Filter PL-68	effluent filter	Approved for General Use
Orenco Fiberglass Septic Tanks	fiberglass septic tanks	Approved for General Use

Appendix C

SUMMARY TABLE of PERMITS: 2003, 2004
(DEC Water Supply / Wastewater Permits only)

DEC Office	Applications Received		Permits Issued		Permits Denied						Enforcement Cases	
					Denials Issued		Reasons for Denials					
							Insufficient Information		Non-compliance with Standards			
	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004
Barre	725	850	713	807	2	2	1	1	1	1	0	0
Essex	640	674	633	698	4	26	4	26	0	0	0	1
Rutland	493	471	576	457	17	3	17	3	0	0	0	0
Springfield	512	553	583	517	20	4	19	4	1	0	0	0
St. Johnsbury	258	294	236	307	0	0	0	0	0	0	0	0
Totals:	2628	2842	2741	2786	43	35	41	34	2	1	0	0

Note: Many older projects were closed out in 2003 which results in more projects completed than received in 2003.

Note: Closing of old projects is often done with a denial of the application. These usually appear as denied for insufficient information.

Note: Information for 2004 is from 1-1-2004 until 12-31-2004

Appendix D

Technical Advisory Committee for On-site Program:
Members
and
Statutory Charge

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Appendix D

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Allison Lowry, Wastewater Mgmt
Rodney Pingree, Water Supply
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Appendix D

Vermont Department of Health technical staff

Gail Center
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Appendix D

Statutory composition of the Technical Advisory Committee and the charge to the committee:

The secretary shall periodically review and, if necessary revise the rules adopted under this chapter to ensure that the technical standards remain current with the known and proven technologies regarding potable water supplies and wastewater systems.

The secretary shall seek advice from a technical advisory committee in carrying out the mandate of this subdivision. The governor shall appoint the members of the committee and ensure that there is at least one representative of the following entities on the committee: professional engineers, site technicians, well drillers, hydrogeologists, town officials with jurisdiction over potable water supplies and wastewater systems, water quality specialists, technical staff of the agency of natural resources, and technical staff of the department of health. Administrative support for the advisory committee shall be provided by the agency of natural resources.

The technical advisory committee shall provide annual reports, starting January 15, 2003, to the chairs of the house and senate committees on natural resources and energy. The reports shall include information on the following topics: the implementation of this chapter and the rules adopted under this chapter; the number and type of alternative or innovative systems approved for general use, approved for use as a pilot project, and approved for experimental use; the functional status of alternative or innovative systems approved for use as a pilot project or approved for experimental use; the number of permit applications received during the preceding calendar year; the number of permits issued during the previous calendar year; and the number of permit applications denied during the preceding calendar year, together with a summary of the basis for denial.

The annual reporting shall end as of January 15, 2007.

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Appendix E

Department of Environmental Conservation
Division of Wastewater Management

Summary of Amendments to the Wastewater System and Potable Water Supply Rules

The version of the Wastewater System and Potable Water Supply Rules, effective January 1, 2005, includes the following amendments from the previous version that was effective August 16, 2002.

1. §1-305, appeal of Final Agency Decisions – this section was revised to reflect the change in appeals from the Water Resources Board to the Environmental Court that will be effective January 31, 2005.

2. §1-313, Designer Licensing - this section was extensively revised to incorporate the legislative change in authority for non-engineers. Designers, who are not also professional engineers, will be permitted to prepare wastewater system and water supply designs for systems of no more than 1350 gallons per day design flow, provided that the system will serve no more than 24 people subject to restrictions, some based on the type of system and some based on whether the designer is Class A or Class B. Class A designers are limited to simple, inground, prescriptive wastewater system designs and to simple water supply systems serving only single family residences. §1-313(d) + (e) specify what a Class A or Class B designer may and may not do.

   Subject to the restrictions in the rules, Class B designers who are not professional engineers are allowed to prepare applications for multi-lot subdivisions and for buildings other than single-family residences. An additional training and testing requirement related to the design of potable water supplies must be fulfilled prior to the preparation of any design for a potable water supply serving any building other than a single-family residence.

3. §1-313, Designer Licensing - a continuing education requirement for Designers who are not professional engineers was added, and §1-313(i) + (j) have been amended to incorporate these changes.

4. §1-403(a)(2) and (a)(3) - the November 1, 2002 date was revised to November 1, 2004 per legislative changes in the 2003 session.

5. §1-403(a)(21) – an exemption was added to implement grandfathering of town permits for wastewater disposal systems.

6. §1-407 - a new section 3 was added to implement "amnesty" for some situations with two

houses on one lot.

7. §1-509 - the grease interceptor language was revised based on the legislative changes made in the 2004 session. Grease interceptors are no longer required in these rules for projects connected to municipal collection systems, though the Department of Labor and Industry plumbing rules or municipal regulations may require such a grease interceptor.

8. §1-523 - a two-year time of travel management zone concept was added. This reduces the separation between the bottom of the leachfield and the water table but provides equivalent protection by ensuring a long period of travel through the soil that protects any source of potable water.

9. §1-524 - a store and dose concept was added. This allows for the wastewater to be stored during a short period when the water table is high and then gradually dosed to the leachfield when the water table has receded.

10. Subchapter 7 – this new subchapter creates a process to allow a municipality to request delegation of issuance of permits from the state to the municipality. The delegation will require that all permits be issued in accord with the state rules. The municipality must file reports, their work will be audited, and delegation can be revoked for cause.