Virginia Department of Health
Drip Dispersal Technical Advisory Committee
Meeting Minutes
April 16, 2013

List of Attendees

Technical Advisory Committee Members

Bob Mayer - AMC	Tom Ashton - AMC	Tim Smith – Pentair
Pat Duttry – VDH	Trapper Davis - Operator	Rick Blackwell – VSPE
Valerie Rourke - DEQ	Joel Pinnix - ACECVA	

VDH

Patrick Bolling Marcia Degen Lance Gregory Allen Knapp
Dwayne Roadcap

TAC Members Not in Attendance

Mike Catanzaro – Pentair David Morgan – Geoflow Mike Lynn - Operator/Installer

1. Administrative

Welcome and Introduction of TAC Members.

Welcome and review of guidelines for DD TAC.

Introduction of DD TAC members.

Approve Agenda.

TAC members were asked for additions or deletions to the proposed agenda. TAC members approved the agenda without change.

2. Background

Mr. Gregory explained the TAC's purpose and goals; to assist the Virginia Department of Health (VDH) in addressing emergency regulations, Chapter 202 of the 2013 Acts of Assembly, HB 1726. The TAC will contribute to the regulations in the best interest of the Commonwealth to protect human health and the environment,

GMP #107.

The TAC reviewed background information and policies. Background information included GMP 67, 87, 88, 96, and 107. GMP 67, 87 and 88 were for specific drip products. GMP 96 was

issued as a generic drip guideline. The current policy regarding drip dispersal is GMP 107. A copy was included in the packet provide to TAC members along with additional reference materials. GMP 107 is a generic drip dispersal guidance policy.

House Bill 1726.

The key element of HB 1726 for the purpose of the DD TAC is Section 4 which states that the Board of Health shall promulgate regulations for other dispersal technologies deemed necessary by the Board. VDH is trying to determine whether drip dispersal regulations are necessary. Drip dispersal regulations are an optional mandate. American Manufacturing provided a straw-man to promote discussion among the TAC. Mr. Gregory wanted the TAC to review the proposal and identify new ideas or agreements with the proposal.

3. Discuss American Manufacturing Company proposal.

Intent of proposed language.

Bob Mayer, PE with American Manufacturing, provided a history of the product. The product has a long and well established history. Mr. Mayer described how the technology was introduced, demonstrated and evaluated over the past 20 years. Drip technology received a waiver from experimental protocol following this review. Mr. Mayer pointed out that drip dispersal has been working in 25 to 30 states. He stated that the straw-man proposal was developed using regulations in other states and its approval policy in Virginia. He stated that engineers could design drip dispersal to other standards as currently allowed by law. His proposal was to move the technology from policy to regulation and provide guidance on standard use of the technology and recognize the elements that provide for a sustainable drip system. Thousands have been installed across the country so the straw-man proposal was not creating anything new. Mr. Mayer stated the proposal conformed to National Onsite Wastewater Recycling Association (NOWRA) guidance and brought GMP 107 into regulation with some minor tweaks.

Concerns and thoughts on proposed language.

Mr. Gregory stated that he had received initial comments on the proposal. Comments discussed the maintenance of emitters to prevent clogging, clarity for pressure compensating or non-pressure compensating drip line (required or preferred), and clarity for sizing in Table 1 of the AOSS regulations. Other comments included questions about when the technology was appropriate to use instead of sand pads below natural grade and questions about designs pursuant to Va. Code 32.1-163.6.

TAC members then reviewed the proposal and identified concerns.

Mr. Blackwell stated that the industry has been using drip dispersal technology for many years and updating GMP 107 and including it in the regulations was a good idea. He noted that drip dispersal only worked for pressure distribution and only a PE could design it. He noted that VSPE had concerns about opening up the technology to the concept of "pre-engineering"; however, the straw-man proposal seemed to keep clear that a PE would remain as the designer and VSPE would support the proposal as such.

Mrs. Rourke pointed out that any VDH regulation on drip dispersal technology should not conflict with regulations that DEQ has for below-ground drip irrigation with reclaimed water as defined in the Water Reclamation and Reuse Regulations (9 VAC 25-740). New amendments to that regulation will allow DEQ and VDH to jointly permit alternative onsite sewage system with a design capacity greater than 1,000 gallons per day and capable of producing reclaimed water for reuse.

Mr. Ashton commented that emitter clogging and operation and maintenance (O&M) was adequately addressed in the straw-man proposal. Use of drip dispersal technology was defined as an alternative onsite sewage system (AOSS) so O&M would happen. He opined the straw-man proposal was simply a technical standard and the appropriate installation was up to the engineer, including the appropriateness of a turbulent flow or compensating emitter. He explained the proposal was a compilation of GMP 107, the 2002 EPA design manual, and the 2006 NOWRA standard. The proposal mirrored four states' regulations: Al, TN, NJ, and OH. Mr. Ashton added that the proposal is already in regulation in NJ, which took 7 years to get a guidance document because they were bringing in Aerobic Treatment Units (ATUs) and Peat into the proposal. He stated the proposal was not interfering with the practice of engineering and the proposal was just listing the national standards. He stated the site evaluator and/or PE would determine design.

Mrs. Duttry stated more clarity was needed in regulations to help VDH staff review plans and allow designers and regulators to work from the same base point. She had seen emitter clogging and wondered what caused that and how it could be avoided.

Mr. Davis stated that he had been operating AOSSs for 13 years and he had established some procedures to stop emitter and filter clogging. He performs semi-annual service on drip systems. He primarily found a problem with manual drip installations and that you cannot overload the treatment system with the return line. He also noted that commercial use had significantly different considerations compared to residential use.

Mr. Smith noted that manufacturers like to keep the technology simple with fewer parts and fewer things to go wrong. He noted that engineers were designing systems such that the manufacturer could not warrant the system. He had witnessed situations where installers did not install correctly, O&M operators didn't know what to do, and engineers were not performing start-up tests. He commented that in VA, designers were picking individual components, but manufacturers still get the call for liability, service, and warranty. One person stated that if designers were not doing initial start-up, then it needed to be reported. The initial start-up could be part of the completion statement that would be handed to the operator.

Mr. Pinnix discussed Va. Code 32.1-163.6, which gives PEs great latitude to design systems based on performance requirements. He asked whether VDH would propose prescriptive regulations or new performance regulations. He stated that if prescriptive rules were being contemplated, there would be no enforcement authority unless the design engineer chose to use the prescription. If performance regulations were being considered, then the question was whether additional performance requirements were necessary. He added that regardless of the manufacturer, the PE designed the system. Mr. Pinnix did not see a need for additional regulation for drip dispersal technology. PEs carried errors and omission insurance and if anybody had a problem with the design, then the PE would be accountable.

When asked why the regulation was necessary, Mr. Blackwell stated that the regulation would help regulators with their reviews. He added that although the PE would not necessarily follow the prescriptive regulation, the health department could refer to it as an aid in their review. He stated that engineers have asked for peer to peer review and they do not always get that type of review. Mr. Blackwell stated that PEs are being over-ruled by environmental health specialist without the engineering understanding and a prescriptive regulation could help alleviate conflicts. Mr. Davis commented that engineers retire and paperwork gets lost. Having prescriptive regulation on drip technology would help operators.

Mr. Pinnix commented that GMP 107 had good general guidance and it seemed sufficient; more regulation is not necessary. He noted there was statutory language that allowed VDH to inspect and approve a sewage system's construction if the designer rejected or didn't inspect the system in timely manner. Mr. Pinnix added that a PE must be familiar with technology he uses and be competent in his area of practice. For example, an electrical engineer couldn't design drip systems. If a PE were not adhering to standard practice, then the matter could be reported to the Virginia Department of Professional and Occupational Regulation (DPOR). In reply, Mr. Blackwell stated that if the existing regulation already requires a certification statement, then there was no need to have an additional requirement for certifying what was done.

The TAC discussed PE liability for designs that meet a prescriptive regulation. One TAC member commented PE liability would be reduced for designs in accordance with prescriptive regulations.

The TAC discussed the requirement for a minimum of 6-inches of cover over drip tubing. Mr. Blackwell noted that drip is sometimes placed on top of the ground for good reasons.

The TAC discussed landscape linear loading, gallons per day per tubing, amount of tubing, and linear length of tubing. Several persons stated that the math and unit conversions did not work with the straw-man proposal and additional work to make the units correct was necessary; the proposal seems to only evaluate linear length of tubing and does not calculate area loading rates. The TAC discussed how the straw-man proposal was different from GMP #107. TAC members mentioned installation depth, slope correction, separation of tubing and the mandate for a listing appeared to be different or new requirements. The TAC discussed how the straw-man proposal and GMP #107 were similar, which appeared to include linear feet of tubing, timed dosing, and network flushing.

Mrs. Rourke stated that paragraph #8 of the straw-man proposal needed clarifying language. The use of the word "recommend" in the fourth sentence would not be appropriate for regulatory language and suggested that the fourth sentence be deleted. Mr. Pinnix asked what "automatically" meant. In reply, Mr. Mayer stated that the term meant an operator did not have to flush once per week because a flushing valve was included. In response, another question was asked about continuous flushing and how that term differed from "automatic." Mrs. Rourke suggested that the regulation should establish a minimum frequency for flushing to make sure the technology worked properly and it was subsequently suggested that "and at a frequency to ensure proper operation" be added to the end of the first sentence. Mr. Mayer noted that direct measurements were wanted, not indirect measurements. He stated that if one were measuring flow out, then return flow should also be measured. One person commented that automatic meant flushing velocity is reached each time the pumped turned on. One person thought the terms continuous and automatic needed more clarification. Did automatic mean programmable controllers? One person asked what forward flushing meant. Mr. Davis commented that return to the head of treatment should not be mandated as that has caused issues with some systems.

Mr. Blackwell stated that running the necessary calculations for flushing and turbulent velocity were complex and writing a prescriptive regulation to account for such would be unnecessary and difficult to do.

The TAC identified other items of concern. Mr. Pinnix thought the phrase "pre" should be removed from "treatment" and that the straw-man proposal did not adequately address peak and average flows. A discussion about GMP #35 occurred and how the straw-man and the prescriptive regulation could handle the concepts of peak and average design flows. One person noted that the regulation should use peak flow and also let the operator adjust the flow, but that would restrict the manufacturer. While the technology allows for peak flow, it would be best for treatment and soil acceptance to dose at the average flow. One person commented that peak flows tend to occur in the morning and evening but you cannot necessarily predict when a particular family's flow peaks would occur. This discussion led one person to comment that the straw-man proposal included a lot of design nuance and would require a lot of thinking. One person commented that the straw-man proposal was simply trying to identify appropriate design standards backed by PEs in Virginia. One person thought the operator had discretion to adjust flows so the regulation could be silent on average and peak flows to provide flexibility. This could be accomplished by deleting "at an average flow" at the end of the first sentence of paragraph number three.

Mrs. Rourke commented that the term "recommended" should not be used in paragraph number 13 if it is to be a regulatory requirement. If paragraph number 13 is not a true regulatory requirement, it should not be in the regulation. Another person asked what paragraph number 13 in the straw-man proposal was trying to accomplish. He had difficulty understanding the requirement. This person also wondered about the difference between manufacturer and system provider. Another person thought an entity like Virginia Well and Mechanical (VAMAC) would be considered the provider. A drip system had multiple manufacturers involved. In reply, another person discussed the concept of "system integrator" with an integrated package of single source materials, tested by the manufacturer. This discussion led one person to comment that drip dispersal technology was the practice of engineering and it looked like the discussion was

about creating prescriptive guidelines for an integrated provider. Another member of the TAC discussed the concept of a manufacturer putting a hardware package together while a PE decided how to use that hardware package. VDH would review and list the hardware package from the system integrator. Mr. Mayer commented that the intent of the straw-man proposal was to allow manufacturers to come up with a packaged system for select site conditions. Manufacturers generally want to bundle and package to get an approval from VDH.

One member stated that VDH did not need to list a package from the manufacturer because the manufacturer had control of the product. The manufacturer could sell the hardware package to a distributor and control use of the product through the distributor. Alternatively, the manufacturer could self-certify the product to the engineer. These options were more preferable than having VDH in the middle of a liability issue. If VDH had a list for the hardware package, then PEs would refer to the list to avoid liability.

Mr. Pinnix stated that if VDH believed some type of regulation were necessary for drip dispersal, then a second meeting should be scheduled to discuss the final proposal. The straw-man proposal, as discussed at this meeting, could not be supported. Several other members stated that there was a need to move from policy to regulation for recognition and use of drip dispersal technology. Mr. Blackwell commented that he did not want more regulation when VDH was having trouble keeping up with current technologies but he also saw several benefits with developing a regulation, including helping the agency review engineering plans, identifying regulatory jurisdictions, assisting PEs in designs preferred by the manufacturer, and improving the technology's long term operation. Another member stated that having regulation would help AOSEs as they gave advice to their clients. Some guidelines would help them make good decisions. This person felt that one day a complaint would be filed to DPOR and the engineering board would need regulations or guidelines to evaluate the complaint against.

4. Next steps for VDH.

VDH staff stated that there was not any plan for a future meeting. The TAC could be restarted if necessary. If anyone had thoughts or ideas going forward, they could forward them to Mr. Gregory for review.

5. Adjourn

Appendix 1

Drip Dispersal Technical Advisory Committee Meeting

Date: April 16th, 2013
Time: 9:00 am to 12:00 pm
Location: Mezzanine
VDH Main Conference Room
109 Governor's Street, Richmond, VA 23219

Meeting Agenda

1. Administrative.
   A. Welcome and Introduction of TAC Members.
   B. Approve Agenda.

2. Background.
   A. GMP #107.
   B. House Bill 1726.

3. Discuss American Manufacturing Company proposal.
   A. Intent of proposed language.
   B. Concerns and thoughts on proposed language.

4. Next steps for VDH.

5. Adjourn

Appendix 2

Drip Dispersal Technical Advisory Committee Guidelines
April 16, 2013

The creation of a TAC is the creation of a public body. TAC meetings are open to the public, and are subject to the provisions of the Virginia Freedom of Information Act. Meeting minutes are taken and posted on the Virginia Regulatory Townhall website (www.townhall.virginia.gov/).

Meetings are noticed at least seven (7) working days prior to any meeting.

Agenda's are posted on Townhall at least 3 days prior to the meeting.

Draft of minutes must be posted within 10 days after the meeting with a final posted within 3 days of approval of the minutes.

The purpose of the TAC is to assist in the development of proposals to address the emergency regulations as required by Chapter 202 of the 2013 Acts of Assembly. Please note that the development of emergency regulations for drip dispersal is an optional mandate. The TAC has been formed to help the Department balance the concerns of all those interested in these emergency regulations. All such concerns will be addressed by the TAC, and any member of the TAC is free to advance any opinion.

The role of the TAC is advisory only. The TAC's primary responsibility is to collaboratively contribute to the development of proposals to address the emergency regulations in the best interest of the Commonwealth as a whole.

The goal is to reach a consensus on how best to address development of the emergency regulations in a manner that will be protective of human health and the environment.

Consensus is defined as a willingness of each member of the TAC to be able to say that he or she *can live with the decisions reached and recommendations made and will not actively work against them outside of the process.* This is not to say that everyone will be completely satisfied by the result of the process. It is necessary; however, that each participant comes prepared to negotiate in good faith around complex and sensitive issues.

Also, because the group represents many different interests, all members should expect to **compromise** in order to accomplish the group's mission. If the TAC cannot reach consensus, the Department staff will present the differing opinions to Department management and the Board.

Because TAC meetings are public meetings, any member of the public may attend and observe the proceedings. However, only TAC members have a seat at the table and participate actively in the discussions. Those persons not on the TAC are encouraged to work with and through the TAC members that have common interests to ensure that their concerns are heard.

As warranted, the Department will provide access for non-TAC members to make their concerns known to the TAC during meetings, to ensure full consideration of all issues surrounding the emergency regulation in question, provided it is not disruptive or does not inhibit the advancement of the work of the TAC. Time limitations may be necessary in order to ensure that all persons have an opportunity to address the group.

- Please mute or turn-off your cell phones to minimize interruptions. You can reconnect during the breaks.

- Listen with an open mind and heart – it allows deeper understanding and, therefore, progress.

- Speak one at a time; interruptions and side conversations are distracting and disrespectful to the speaker. "Caucus" or private conversations between members of the audience and people at the table may take place during breaks, not during the work of the group.

- Be concise and try to speak only once on a particular issue, unless you have new or different information to share.

- Simply note your agreement with what someone else has said if you feel that it is important to do so; it is not necessary to repeat it.

- Focus on the issue, not the speaker – personalizing makes it impossible to listen effectively.

- Present options for solutions at the same time you present the problems you see.