



*Commonwealth of Virginia*

**VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY**

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**SUBJECT:** Virginia Pollutant Discharge Elimination System (VPDES), 9VAC25-790,  
Sewage Collection and Treatment (SCAT) Advisory Committee Meeting Minutes

**DATE:** December 10, 2024

The Virginia Department of Environmental Quality (DEQ) held the third Sewage Collection and Treatment (SCAT) Advisory Committee meeting on December 10, 2024, to review the regulation, 9VAC25-790, at the DEQ Piedmont Regional Office (PRO) located at 4949-A Cox Road, Glen Allen, Virginia 23060. The meeting began at 9:30 am and ended at approximately 2:00 pm. The committee met to discuss issues and standards in Part I, Article 7, 9VAC25-790-740 through 9VAC25-790-800, for regulating sewerage systems and treatment works. The committee's purpose as stated in 9VAC25-790-250, subsection D, is to meet, discuss issues, and make recommendations to the director concerning policies, procedures, and programs for regulating sewerage systems and treatment works. The committee's meeting was advertised on Virginia Regulatory Town Hall and open to the public.

SCAT committee members in attendance:

<b>SCAT Advisory Committee Members</b>		
Charles Bott, Hampton Roads Sanitation District (HRSD)	Rob Mangrum, Mangrum Consulting	Matthew Rembold, VAMWA
Timothy Castillo, Virginia Rural Water Association (VRWA)	Brian Orrock, Spotsylvania County Utilities	Christopher Tabor, Virginia Water Environment Association (VWEA)
Glenn Pearson, Prince William County Service Authority (PWCSA)	Jeffrey McBride (Alternate), Black and Veatch	

The following members were not in attendance: Rebecca Golden – Virginia Society of Professional Engineers

<b>SCAT Advisory Committee Ex-Officio Members and Alternates</b>	
<b>Ex-Officio Member</b>	<b>Alternate</b>
Azra Bilalagic, Guidance & Regulation Coordinator, Office of VPDES Permits, DEQ	Laura Galli, Guidance & Regulation Coordinator, VPDES, Office of VPDES Permits, DEQ
Joseph Bryan, VPDES Permit Supervisor, Office of VPDES Permits, DEQ	Jeanne Puricelli, VPA Permit Writer, Office of Land Application Programs, DEQ
Ryder Bunce, VDH	

<b>DEQ Staff</b>	
Nelson Daniel, Policy Analyst, DEQ	Morgan Emanuel, Regulatory Analyst, Water Division, DEQ
Meghan Mayfield, Director, Water Permitting Division, DEQ	Nyibe Smith, Office of Water Compliance, DEQ
Rebecca Rochet, Deputy Director, Water Permitting Division, DEQ	

No members of the public were in attendance.

**Meeting Opening and Introductions:**

DEQ staff opened the meeting with introductions, information on facilities for the meeting site at PRO, purpose and role of the committee, review of public participation guidelines, FOIA reminders, and helpful reminders for contributing to group discussions.

DEQ staff reviewed the agenda and presented overview information of Part I, Article I and II of the SCAT regulation and rulemaking timeline. DEQ also reviewed the regulation development process, tentative schedule, and the role of the Advisory Committee. Committee members did not request any revisions to the meeting minutes from the November 4, 2024 meeting.

**Discussion Summary (DEQ):**

- Overview of SCAT Regulation, 9VAC25-790
  - Established minimum requirements for the construction and operation of facilities designed to collect and treat sewage wastewaters in Virginia.
  - Adopted by the Virginia Board of Health in 2001, subsequently transferred to the Virginia DEQ in 2003.
  - The goal of this committee is to provide vetted upper and lower guardrail language for engineers to work within that will be protective of water quality.
  - Committee can base input on operating parameters, life expectancy, redundancies, volumes, dimensions, baseline minimums and maximums.

- Known Revisions
  - Regulatory Necessity:
    - To protect human health and the environment.
    - Prevent permit noncompliance resulting in possible violations of water quality standards and costly enforcement actions.
  - Regulatory burden:
    - Are there less burdensome and less intrusive alternatives to achieve the regulation's essential purpose?
  - Improve clarity:
    - Should be clearly written and understandable by individuals affected.
  - Technological standards:
    - Update to reflect current technology in use.

**Discussion Summary: (Committee Open Discussion)**

The advisory committee began the meeting by discussing alternative approaches to reviewing and revising 9VAC25-790 (SCAT Regulation). The committee suggested that general restructuring of each technology section of Part III, Article 7 (Manual of Practice for Sewerage Systems and Treatment Works – Effluent Polishing and Disinfection Processes) was needed and that developing an overall template to follow for existing and new technologies would be beneficial. A committee member provided the Colorado Design Criteria for Domestic Wastewater Treatment Works, WPC-DR-1, as a possible template for revising language in 9VAC25-790. Committee members talked about using the format and scope of the Colorado Design Criteria as a model for updating the SCAT Regulation, while keeping necessary design standards and guardrails in place.

Committee members and DEQ staff looked at the Colorado Design Criteria. Committee members discussed how parts of Chapter 9 compared to practices in Virginia and how they might influence, replace, or supplement current requirements in the SCAT Regulation. The following topics were considered:

- Discussed the difference between E. coli and fecal coliform as indicator microorganism standard.
- 9.1.0 Introduction to Disinfection Techniques [The numeric sequence of 9.X,X corresponds to the sections in the Colorado Design Criteria.]
  - Discussed similarity and applicability to 9VAC25-790-740 B.
  - Discussed incorporating microorganism inactivation and whether the consideration would be done by the department, an engineer, or possibly a third party.
- 9.2.0 General Design Considerations
  - Discussed incorporating supplemental filtration as part of the disinfection process.
- 9.2.1 Effect of Particle Removal
  - Discussed and recommended incorporating the entirety of this section into 9VAC25-790, however the specific manner and place within 9VAC25-790 in which to incorporate this section is under consideration

- Discussed difference between using E. coli and fecal coliform as secondary clarifier effluents limits.
- 9.2.3 Concentration or Intensity X Contact Time
  - Discussed replacing E. coli with fecal coliform.
- 9.3.1 Chlorine Type
  - Discussed requiring that on site storage be provided for a minimum of 15 days usage at the design maximum flow.
- 9.3.2 Dosage
  - Discussed requiring that calculations justifying equipment sizing and number of units “must be performed” as opposed to “submitted.”
  - Discussed Minimum design chlorine doses.
- 9.3.3 Mixing and Contact Time
  - Discussed updating and incorporating into 9VAC25-790-790.
- 9.3.6 Calcium Hypochlorite
  - Discussed tablet chlorinators in relation to what is currently in the Virginia regulations.
- 9.3.7 Safety Consideration
  - Discussed need to update 9VAC25-790 to reference OSHA.
- 9.3.8 Redundancy
  - Discussed incorporating into 9VAC25-790 in place of Dose Control section (9VAC25-790-750 D); revise to apply to 1.0 MGD and greater
- 9.3.9 Monitoring and Alarms
  - Discussed incorporating into 9VAC25-790 in place of Dose Control section ( 9VAC25-790-750 D).; revise to apply to 1.0 MGD and greater.
- 9.4.2 Dosage Range
  - Discussed incorporating language; committee rejected doing so.
- 9.4.3 Mixing and Contact Time
  - Discussed incorporating and revising to a minimum of one minute.
- 9.4.5 Housing Requirements
  - Discussed incorporating system design language.
  - Discussed need to review regulations and policies regarding existing facilities that do not conform to newer regulations and policies.
- 9.4.8 Monitoring and Alarms
  - Discussed need to update language to be consistent with 9VAC25-790.
- 9.5.1 UV process Capacity
  - Discussed need to replace E. coli with fecal coliform as indicator organism.
  - Discussed need to incorporate design delivered minimum UV dosage for activated sludge secondary effluents limits.
- 9.5.2 UV Systems Redundancy
  - Discussed need to review the setup at the Broad Run wastewater treatment facility to determine whether it is consistent with the Colorado Design Criteria or, if not,

whether it could be used to establish a standard for the SCAT Regulation. No specific revisions were recommended, however.

- 9.5.5 UV Monitoring and Alarms
  - Discussed need for facilities to be attended by a licensed operator.
- 9.5.6 UV Disinfection System Cleaning and Maintenance
  - Discussed incorporation of the entirety of this section.
- 9.5.7 UV Disinfection System Safety
  - Discussed incorporation of the entirety of this section.

DEQ staff projected sections of the Colorado Design Criteria beside corresponding sections of the SCAT Regulation. Committee members were able to compare the two and discuss whether and how the language in the Colorado Design Criteria could be incorporated into Part I, Article 7, 9VAC25-790-740 through Article 7, 9VAC25-790-800. The following topics were considered for each section:

- Discussed overall need to replace “should” with “shall” throughout the regulation.
- 9VAC25-790-740 Disinfection
  - Discussed removal of redundant, obsolete, or outdated language.
- 9VAC25-790-750 Chlorination
  - Discussed indicator microorganism standards.
  - Discussed separating and expanding chlorination section.
  - Discussed replacing Dose Control section; possibility of using §§ 9.3.8 and 9.3.9 of the Colorado Design Criteria as templates.
  - Discussed using a capacity of 1.0 MGD as opposed to 5.0 MGD.
  - Discussed using § 9.3.8 of Colorado Design Criteria as template for redundancy and alarm language in compound loop section.
  - Discussed removing “A mean velocity gradient (G) value of 500 to 1,000 per second is recommended.”
  - Discussed replacing “provide” with “perform.”
  - Discussed whether to delete language from contact tank section; committee members recommended keeping language as is.
  - Discussed removing individual safety sections and placing one overarching section at the beginning of the regulation; if a design standard is not otherwise covered it can be included in the relevant technology section.
- 9VAC25-790-760 Bromochlorination
  - Discussed whether this section was still necessary.
  - Discussed incorporating language alongside general “case-by-case” language for new technologies to also allow facilities to continue to use “legacy” technologies (i.e. no longer typically used but may still exist) that are no longer specifically referenced in 9VAC25-790.
- 9VAC25-790-770 Ultraviolet light irradiation (UV)
  - Discussed incorporating new equipment definitions.
  - Absorbance coefficient is not typically used, discussed replacing.

- Discussed removing the requirement for availability of two manufactures.
- Discussed removing requirement for 90% or more emitted light output at 253.7 nanometers as this would exclude medium pressure.
- 9VAC25-790-780 Ozonation
  - Changes to this section were not addressed at this meeting.
- 9VAC25-790-785 Peracetic Acid (PAA)
  - This would be a new section.
  - Discussed using language from § 9.3.10 of Colorado Design Criteria as a template for language to be added.
- 9VAC25-790-790 Other disinfection methods
  - Changes to this section were not directly addressed at this meeting.
- 9VAC25-790-800 Dechlorination
  - Discussed changing or keeping the phrase “of 1-1/2 parts” from section B.2; the committee recommended continuing to use this language.
  - Committee members recommended adding the words “by mass” to the end of section B.2.

**Action Items:**

- DEQ will review the committee’s suggestions and recommendations, including updating language, removing language, removing sections, and adding a process for including new technologies and methods.
- DEQ VPDES program staff will work with policy analysts to prepare for further discussions at the next advisory committee meeting.

**Next Meeting:**

A fourth advisory committee meeting is scheduled for January 23, 2025, at 9:30 a.m. at DEQ’s Piedmont Regional Office located at 4949-A Cox Road, Glen Allen, Virginia 23060.