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SENT ELECTRONICALLY ONLY

November 14, 2024

Mr. Jeremy Hull, P.E., Field Director
Virginia Department of Health
Office of Drinking Water
400 S. Main Street, 2nd Floor
Culpeper, Virginia 22701

RE: Wilderness WTP Waterworks (PWSID VA6137999)
Notice of Alleged Violation

Dear Mr. Hull:

Rapidan Service Authority is in receipt of the above referenced NOAV that came about after the objectionable odor event in August 2024.

I will address each of VDHODW's requested corrective actions in numerical order.

1. Within 60 days of RSA's receipt of this notice, submit to ODW's Culpeper Field Office, by electronic mail, a detailed and comprehensive plan to address the concerns outlined herein and detailed in the enclosed Investigative Summary Report, and including the following elements:

While RSA does not agree with everything in VDH's Investigative Summary Report, we do acknowledge, in hindsight, that the timing of the first pump failure and the objectionable odor beginning, should have raised a red flag for RSA. From that, we learned that we need to investigate more thoroughly any routine equipment failures to determine potential causes and water quality impacts before continuing with regular operations. Those procedural changes are detailed below.

A listing of causal and contributing factors that resulted in the objectionable odor event from RSA's post analysis of the event, including how RSA will effectively respond to those observations and the lessons learned to prevent a similar event from occurring.

RSA's investigation into this matter revealed that the temporary river intake pump electrical wiring installed on August 19, 2024, led to the failure of each of the three river intake pumps. RSA's Project Engineer, Mangrum Consulting and Design determined the electrical sub-contractor used temporary wiring that was smaller than the existing permanent wiring for the original pumps and significantly smaller than the required new wiring to be installed as part of the project. This undersized wiring led to a thermal overload condition of the pump(s) resulting in the "catastrophic" failure of the pumps and release of food grade mineral oil into the river intake wetwell. This water was then pumped to the water treatment plant after the plant operator activated a second pump upon failure of the first. While each of the three river intake pumps failed in the same manner, it was only oil from the first pump failure that could have been pumped to the water treatment plant as the two remaining pumps failed several days later in quick succession. From that point on, the river intake wetwell was isolated and a diesel pump was utilized to pump water from the river to the plant. RSA has modified its operating protocol in the event of a pump failure to no longer immediately activate another pump. In the event of a pump failure, the plant operator will immediately investigate to determine the cause of the failure before activating another pump. That investigation will include, at a minimum, a trip to the river intake wetwell and collection of a sample from the wetwell in an effort to discern the presence of any food grade mineral oil in the water before proceeding to activating another pump. If any food grade oil is discerned, either by smell or sight, RSA management will also be immediately notified and the wetwell will be isolated and pumped out and cleaned prior to further use. During this investigation period, an emergency pump will be brought in and the wetwell will be bypassed until it is deemed clean.

- a. Operational changes at RSA to actively and routinely monitor raw water quality and odor, which should include updating daily bench sheets completed by RSA's licensed operators.

RSA's operators have been instructed to collect a sample entering the plant pre-sedimentation basin on four-hour intervals, beginning with plant start up, when the plant is operating. This sample can then be checked for odor or any other abnormalities and noted on the plant daily bench sheet.

- b. Changes in RSA's policy and procedures to ensure infrastructure improvements at the Wilderness WTP waterworks are closely monitored and overseen with a proactive construction inspection program before equipment is placed into operation.

RSA has already implemented increased project inspection for this project. There will be an inspector onsite two to three days per week or when there is any activity going on with the placement/start-up of equipment.

- c. An appropriate and ongoing communication strategy with consumers to address public concerns about water quality.

RSA is investigating its ability to implement a greater social media presence. We currently utilize our text/email alert system for people that have signed up to receive them and will investigate the ability to send out an email blast to all customers. We do not have a public relations officer like many larger utilities but interact with our customers daily when they contact us. RSA is providing a final report of this incident to the Orange County Board of Supervisors at a joint meeting with the Lake of the Woods Association Board on November 20, 2024, to include a Town Hall question and answer period at the conclusion of the report presentation.

- d. Ensuring a responsive capital improvement plan to reduce disinfection by-products and improve RSA's ability to respond to taste and odor concerns.

RSA had already begun, prior to this event, actively pursuing a means to reduce disinfection by-products, possibly using granular activated carbon filtration. We learned through this odor event that the same type of filter would have potentially eliminated the odor before it ever left the water treatment plant. We have already begun the process of having an engineer study this matter further as we evaluate the best path forward for this water treatment plant for both now and in the future. RSA's Board and staff are committed to not only reducing the disinfection by-products but also being better prepared for any future odor event that could occur.

- e. Ensuring an effective emergency response plan and asset management plan.

RSA has an emergency response plan, as required by the EPA. Staff will commence a full review and revision, if needed, in 2025. Additionally, we are actively developing an asset management plan. It should be completed in 2025 following the implementation of new asset management software.

- f. Other items that RSA would feel important to share based on the Investigative Summary Report dated September 25, 2024, and this notice.

RSA has attached to this response letter its final report on the Objectionable Odor Event.

2. Schedule at least monthly meetings with ODW's Culpeper Field Office to review progress on RSA's plan, including its asset management, emergency response, and capital improvement plans.

This first meeting is scheduled for November 15, 2024.

RSA always seeks to provide uninterrupted, high quality water service to our customers. We will take this unfortunate incident as a learning experience and an opportunity to revise any necessary operating protocol. RSA looks forward to continuing to work with VDH on this, as well as any other matters pertaining to water quality and supply. We sincerely hope that these upcoming meetings with VDH staff can be productive in that pursuit.

Sincerely,



Timothy L. Clemons
General Manager
Rapidan Service Authority

cc: Mark Johnson, RSA Chairman
Ted Voorhees, Orange County Administrator
Dwayne Roadcap, Director, VDH Office of Drinking Water
David Jarrell, RSA Operations Director