



COMMONWEALTH of VIRGINIA

Marissa J. Levine, MD, MPH, FAAFP
State Health Commissioner

Department of Health
P O BOX 2448
RICHMOND, VA 23218

TTY 7-1-1 OR
1-800-828-1120

August 5, 2016

Joseph Soulia
Senior Government Relations Representative
Orengo Systems, Inc.
14 Airway Avenue
Sutherlin, Oregon 97479

CERTIFIED MAIL

Re: Variance Request, TL-3 General Approval

Dear Mr. Soulia:

On June 22, 2016, you submitted a request for variances from the Regulations for Alternative Onsite Sewage Systems (AOSS Regulations, 12VAC5-613, effective December 7, 2011). You withdrew this request and provided a new request on July 7, 2016.¹ On July 21, 2016, Nick Noble with Orengo Systems, Inc. (Orengo) modified Orengo's variance request again. Staff presently understands that Orengo seeks a variance from 12VAC5-613-30.L, 70.1, and 70.2 to use sampling data collected from treatment units installed in Maryland, to use CBOD₅ instead of BOD₅, and to receive a three year extension, until December 7, 2019, to keep Orengo's product listing as generally approved for Treatment Level 3 (TL-3).²

The AOSS Regulations, at 12VAC5-613-30.L, 70.1, and 70.2, state the listing for general approval remains in effect for five years, until December 7, 2016, unless you provide quarterly data from 20 treatment units installed in Virginia that complies with current regulations, including operation and maintenance (O&M) requirements. You wrote the above cited regulations present a significant financial hardship (more than \$100,000), and the requirements also created undue burden for your Virginia small business distributors.

Orengo previously conducted testing of Advantex (AX20) units in Virginia prior to 2006; Orengo followed a field testing protocol accepted by VDH at that time, which included quarterly testing of influent and effluent for 18, AX20 treatment units. Testing included CBOD₅, total suspended solids (TSS), turbidity, and total nitrogen. A total of 118 data sets were collected for CBOD₅ and 120 for TSS. Based on final testing results, VDH generally approved the AX20 treatment unit pursuant to Guidance Memoranda and Policy (GMP) 114 in 2006. The Virginia

¹ Both requests for variance (June 22 and July 7, 2016) were dated May 25, 2016.

² The June 22 and July 7, 2016, requests both asked for a one year extension.

Mr. Joseph Soulia
August 5, 2016
Page 2 of 3

Department of Health (VDH) rescinded GMP 114 in 2009 (replaced by GMP 114.A), rescinded GMP 114.A in 2009 (replaced by GMP 147), then rescinded GMP 147 in 2016 (replaced by GMP 2016-03). The AX20 unit is currently listed as generally approved pursuant to GMP 2016-03 and the AOSS Regulations (12VAC5-613), but approval expires December 7, 2016, pursuant to 12VAC5-613-30.L. Over 1,100 Orenco treatment units are currently installed in Virginia pursuant to the general approval.

On June 24, 2016, VDH denied your application to continue Orenco's generally approved TL-3 listing after December 7, 2016, as Orenco did not submit 3rd party data on 20 treatment units installed in Virginia, did not provide BOD₅ data, and the treatment units were not operated and maintained by a licensed operator.³ Staff observed that four units (from the 18 installed and tested prior to 2006) were operated in a mode that did not meet TL-3 effluent.⁴ Marcia Degen, Environmental Technical Services Administrator, requested data from units operated in the same mode (Mode 3) based on VDH's review and evaluation of your initial request for general approval. Orenco did not challenge Dr. Degen's decision and requested variances to the AOSS Regulations.

In your request for variances, staff understands that Orenco already has data from 18 units in Virginia (tested and evaluated by a 3rd party before 2006) and would like to supplement additional data from a 3rd party evaluation of AX20 units installed in Maryland to complete the 20 dataset requirement. Orenco also requested a variance to use a conversion factor of 1.2 to adjust CBOD₅ to BOD₅ as necessary. Each CBOD₅ data point would be multiplied by 1.2 to obtain an estimate of BOD₅. This conversion factor results in a CBOD₅/BOD₅ ratio of 0.83, consistent with usage by the National Sanitation Foundation (NSF) and the Department of Environmental Quality (DEQ).⁵ Lastly, you requested additional time to comply with the submittal requirements.

Given the hardship you cite as justification for your variance request, I grant a variance to extend Orenco's general approval listing until December 7, 2018. I also grant the request for variances from 12VAC5-613-70.1 and 12VAC5-613-70.2 with the following conditions:

1. Orenco must provide a final report with all data to be considered certified by a single 3rd party to be compliant with GMP 2016-03, except for the variances granted herein.

³ See 12VAC5-613-120, 140, and 190 for more information about the requirements. Prior to December 7, 2011, AOSSs did not need to be operated and maintained by a licensed operator.

⁴ TL-3 effluent means effluent that has been treated to produce BOD₅ and TSS concentrations equal to or less than 10 mg/l each. See 12VAC5-613-10.

⁵ CBOD₅ is a subset of BOD₅ as it represents the carbonaceous BOD after nitrification suppression. CBOD₅ is always less than or equal to BOD₅. The ratio of CBOD₅/BOD₅ can vary by effluent type; for domestic sewage, the ratio is approximately 0.80 CBOD₅/BOD₅. DEQ recently modified the 30 mg/l BOD₅ effluent limits to 25 mg/l CBOD₅ in certain cases, which reflects a ratio of 0.83 for CBOD₅/BOD₅. NSF 40 and NSF 360 both require CBOD₅ for effluent testing. VDH already accepts NSF 40 for TL-2 general approval in GMP 2016-03, which has a 30 mg/l CBOD₅ standard. NSF uses 25 mg/l CBOD₅ as a 30 day average as criteria for secondary effluent, which also supports a ratio of 0.83 CBOD₅/BOD₅.

Mr. Joseph Soulia
August 5, 2016
Page 3 of 3

2. Orenco must provide quarterly data from a minimum of 20 treatment units operated in the same mode (Mode 3, or another operational mode that complies with the standards found in GMP 2016-3).⁶
3. Orenco's 3rd party can provide data from treatment units operated in Maryland because of the similarities in climate as long as the treatment units and testing are certified by the unifying 3rd party as being compliant with GMP 2016-03 except for the variances granted herein.

VDH will review the single 3rd party's final report and assess the 3rd party's data and conclusions pursuant to the acceptance criteria outlined in GMP 2016-3 unless the AOSS Regulations change this existing criteria. Please recognize that the additional time to provide the 3rd party report and my granting of the other variances herein (to allow data from Maryland and to use a conversion factor to adjust CBOD₅ to BOD₅) do not automatically mean that Orenco's general approval listing for TL-3 will remain in effect until December 7, 2018. The listing for TL-3 general approval will be granted or denied by VDH after submission and review of all pertinent data from the 3rd party under the criteria established by GMP 2016-3. The variances herein only allow a single 3rd party to submit data (and a report) not otherwise recognized by VDH before December 7, 2018. I recommend that you not wait to provide the single 3rd party's report so that staff has ample time to review the 3rd party's report and conclusion before the general listing expires.

The variances herein take effect 15 days from Orenco's receipt, and the variances herein remain in effect until December 7, 2018, unless the AOSS Regulations change evaluation criteria before then, in which case changes made to the AOSS Regulations will supersede. You have 30 days from your receipt of this letter to appeal my decision. If you wish to appeal this decision, please contact Mr. Dwayne Roadcap, Division Director, at 109 Governor Street, 5th Floor, Richmond, Virginia 23219, (804) 864-7458, or Dwayne.Roadcap@vdh.virginia.gov.

Sincerely,



Marissa J. Levine, MD, MPH, FAAFP
State Health Commissioner

⁶ Based on data received to date from AX20 units operated in Mode 1 and Mode 3, Mode 1 under performed and did not comply with the TL-3 standard. Refer to VDH's denial on June 24, 2016, for more information.