



COMMONWEALTH of VIRGINIA

Department of Health
P O BOX 2448
Richmond, VA 23218

M. Norman Oliver, MD, MA
State Health Commissioner

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

April 23, 2020

Brett Wieber, Sales Manager

bwieber@norweco.com

Norweco, Inc.
220 Republic Street
Norwalk, OH 44857

VIA ELECTRONIC AND REGULAR MAIL

RE: Treatment Level 3 General Approval of Norweco's Singulair Model 960 wastewater treatment system with Hydro-Kinetic Bio-Film Reactor (HKBFR)

Dear Mr. Wieber:

We have completed our review of your request for listing of Norweco's Singulair Model 960 wastewater treatment system with Hydro-Kinetic Bio-Film Reactor (HKBFR) as "Generally Approved" under the Virginia Department of Health's (VDH's) Guidance, Memorandum, and Policy (GMP) 2016-03 and in accordance with the Treatment Level 3 (TL-3) general approval requirements in the *Regulations for Alternative Onsite Sewage Systems* (12 VAC5-613, *AOSS Regulations*).

The complete submittal for review consists of the following:

1. Application Checklist - Evaluation Requested - signed and dated May 17, 2019.
2. Memorandum of Understanding and Agreement, signed and dated May 17, 2019.
3. Letter signed and dated May 17, 2019 requesting variance for 12VAC5-613-70 1. Variance request allowing Norweco to submit data collected in Pennsylvania.
4. Letter from VDH signed and dated June 14, 2019, granting Norweco's requested variance.
5. Engineer's Treatment Level 3 Certification Statement by Robert Shaffer, P.E., signed and dated May 16, 2019.
6. Engineer's Operation and Maintenance Certification Statement by Robert Shaffer, P.E., signed and dated May 16, 2019.
7. Third party testing agreement between Norweco and North American Testing, LLC, signed and dated May 9, 2019.
8. QAQC plan from North American Testing, LLC, signed and dated May 9, 2019.
9. Owner's Manual and Technical Plan sheets for the approved unit.
10. Excel spreadsheet with individual site information and relevant data.
11. Field Testing and Evaluation Report NWE250119VDH from North American Testing, LLC, signed and dated March 17, 2020.

Mr. Brett Wieber

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Based on our review, VDH approves the Norweco Singulair Model 960 wastewater treatment system with HKBFR for listing as “Generally Approved” under GMP 2016-03 and as “Generally Approved” for TL-3 effluent treatment under the *AOSS Regulations*. The effluent testing results indicate a 99% confidence interval for BOD₅ of 7.5 mg/l and TSS of 5.2 mg/l using the protocol established in GMP 2016-03.

The specific units included in this approval are below.

| Model | Rated Treatment Capacity, gpd |
|------------------------------------|--------------------------------------|
| Singulair 960-500 with HKBFR | 500 |
| Singulair 960-600 with HKBFR | 600 |
| Singulair 960LP-500 with HKBFR | 500 |
| Singulair 960LP-600 with HKBFR | 600 |
| Singulair Green 960-500 with HKBFR | 500 |
| Singulair Green 960-600 with HKBFR | 600 |
| Singulair 960-750 with HKBFR | 750 |
| Singulair 960-750 with HKBFR | 800 |
| Singulair 960-1000 with HKBFR | 1,000 |
| Singulair 960LP-1000 with HKBFR | 1,000 |

Please feel free to call me at (804) 387-1883 or contact me by email at Marcia.Degen@vdh.virginia.gov if you have any questions.

Sincerely,



Marcia J. Degen, Ph.D., P.E.
Technical Services Administrator
Division of Onsite Sewage, Water Services,
Environmental Engineering & Marina Programs

Cc: Lance Gregory, Division Director
Ryder Bunce, PE, Technical Services Engineer