



Alternative/Experimental OWTS Technology Program

Vendor Information:

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Contact:

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Technology Name & Model Numbers:

White Knight Microbial Inoculator Generator™
Model Numbers: WK40, WK78, WK150, WK200

Technology Type:

Treatment System - Class Two Approval for
Leachfield Renovation

Certification Dates:

Renewed: October 1, 2020
Expires: October 1, 2025

CERTIFICATION

The Rhode Island Department of Environmental Management (RIDEM) has reviewed the Class Two Alternative Technology renewal application submitted by Knight Treatment Systems, Inc. hereafter referred to as the "Vendor", for the White Knight Microbial Inoculator Generator™ Models WK40, WK78, WK150, and WK200 hereafter referred to as the "System". Based upon information contained in the application the RIDEM hereby renews the approval of the System for listing on the RIDEM Alternative and Experimental (A/E) Technology List as a Class Two Technology utilized for the purpose of Leachfield Renovation.

The System is contained within a HDPE cylinder, designed to be installed into a septic tank, continuously inoculating the tank with non-pathogenic ISO-500™ bacterial cultures. An air pump provides fine bubble aeration and circulation within the System bringing the bacteria into contact with fixed film substrate and the suspended organic compounds in the septic tank. The ISO-500™ bacteria released by the System digest organic wastes in the septic tank and in the leachfield.

Design, installation, and operation of the System shall be in accordance with the following terms and conditions:

I. Design Requirements

A. General

1. The System is approved for renovation of Onsite Wastewater Treatment Systems (OWTSs) which are organically clogged resulting in hydraulic failure. The System may also be installed in a functioning OWTS or a new OWTS by application to the RIDEM.
2. The System is approved for all uses with no design flow restriction.
3. No reduction in required leachfield area may be attributed to use of this System.
4. The System may not be installed in cesspools, block, or steel tanks, or in substandard tanks.
5. In no case may the System be installed in a tank of a volume less than 1,000 gallons.
6. Septic tanks in which the System is to be installed shall be equipped or retro-fitted with an effluent filter.

7. Since constant aeration is necessary for proper performance of the System, the air pump must be operational 24 hours a day. To ensure owner/operator compliance with this condition, all Systems shall be equipped with an hour meter and a visible and audible motor/power failure warning light, mounted on a NEMA approved cabinet on the exterior of the building.
8. Design and installation shall be in strict conformance with the RIDEM-approved System Design, Installation, Operation & Service Manual dated **June 2020** and shall only be performed by a Rhode Island licensed designer/installer who has received training and is authorized in writing by the Vendor to design/install the System.
9. Each System design shall meet all other applicable OWTS standards and receive prior approval by the RIDEM pursuant to the regulations in effect at the time of application.

B. Existing OWTS Requirements

1. Before the RIDEM will allow use of the System at a site, an OWTS Construction Permit Repair Application must be submitted to and approved by the RIDEM.
2. The following additional documentation must also be submitted with the OWTS Construction Permit Repair Application: a) A completed Vendor's Site Qualification form; b) A copy of the conformed plan or system plan created based on the Vendor required investigation which identifies the location and size of the septic tank, d-box (as applicable), and the type and size of the leaching area in use.

C. New OWTS Requirements

1. Before the RIDEM will allow use of the System at a site, an OWTS Construction Permit Application for New Building Construction which incorporates the System as part of the proposed design must be approved.
2. Only conventional and Class I Alternative leachfield technologies as referenced in the list of approved Alternative technologies approved by the RIDEM are permitted for use with this System.

II. Training

1. The Vendor shall make training available for designers, installers, and service providers.
2. The Vendor shall notify the RIDEM of the date and time of each training seminar and submit to the RIDEM a detailed agenda, material to be distributed to attendees and a list of presenters specifying their credentials at least six weeks in advance of the date of the scheduled seminar. Please consult the RIDEM-issued requirements for Vendors' system training available on the RIDEM website in the A/E technology section.
3. The Vendor shall make available to the public, a means of verifying individuals, by name and category, who have received training and are authorized in writing by the Vendor to design, install, and maintain the System.

III. General Certification Requirements

1. This Class Two certification shall be effective until its expiration and may be renewed according to the provisions of the OWTS Rules, as amended.
2. The Vendor is responsible for providing any revisions to the design, installation, operation and maintenance manual(s) for all models applicable to this certification to RIDEM for review and approval within thirty (30) days of RIDEM request. All manuals must be provided to the RIDEM in electronic portable document format (pdf).
3. The Vendor shall notify the RIDEM in writing of any changes to the System, including its discontinuation. Modifications deemed by the RIDEM to be substantial, may require re-application to the alternative/experimental program.
4. The Vendor shall notify the RIDEM at least 30 days prior to any proposed transfer of ownership of the System. Notification shall include the name and address of the new owner and a written

agreement between the existing and new owner specifying a date for transfer of ownership, responsibility, and liability for the System. All provisions of this approval shall be applicable to any new owners.

5. The Vendor shall provide any purchaser of the System with a copy of this approval prior to the sale of the System.

IV. Operation and Maintenance Requirements

1. Operation and maintenance of the System shall be performed in strict conformance with the RIDEM-approved System Design, Installation, Operation & Service Manual dated **June 2020**.
2. The RIDEM approved O&M Manual shall be provided to the Owner/Operator.
3. Installations of the System shall be maintained according to the manufacturer's specifications.
4. For seasonally used installations of the System, the Vendor shall provide specifications for protection of the System and the biological component from freezing, and conditions under which power to the System may be turned off.
5. The Vendor must offer for sale a minimum two-year service contract, which must include as an option, service to all components of the treatment train in addition to the System.
6. The Applicant/Owner shall record copies of the OWTS construction permit issued by RIDEM and the initially executed O&M contract(s) for the System, and all other A/E components in the treatment train, in the land evidence records of the applicable city or town prior to the RIDEM issuing the Certificate of Conformance for each installation.
7.
 - a) The owner shall retain a public or private maintenance entity (service provider) for the life of the System and all other A/E components of the treatment train; a Vendor-authorized homeowner functioning as service provider is exempt from this for the System and any components of the treatment train for which the homeowner is providing service.
 - b) No agreement with a maintenance entity shall be for less than two years. A service contract must remain active during the life of the system.
 - c) Service providers must be trained and authorized in writing by the appropriate Vendor to perform O&M on the System and all other A/E components of the treatment train for which they will be performing O&M.
 - d) System owners who are authorized by the appropriate Vendor(s) to perform O&M on their own system's components must file a Vendor-authorization for each component for which they are performing O&M service.
 - e) The service provider or homeowner providing O&M on his or her own System shall:
 - (1) Receive training as approved by the Vendor.
 - (2) Be available to perform required preventative maintenance, perform repairs, respond to System emergency situations, and conduct performance monitoring when required by this Certification or by permit.
 - (3) Perform an inspection of the treatment System at least twice annually for residential systems.
8. The Vendor shall have an inventory of System replacement parts available locally.

V. Rights of the RIDEM

1. The RIDEM may suspend, modify or revoke this approval for cause, including but not limited to: non-compliance with any of the provisions or conditions of this Certification, misrepresentation or failure to disclose fully all relevant data, or receipt of new information indicating that the use of the System is contrary to the public interest, public health or the environment.
2. The design, installation, and operation and maintenance manual referenced herein is approved

upon the date of approval of this Certification.

3. The RIDEM reserves the right to suspend or revoke this Certification if updated design, installation, and O&M manuals are not provided to the RIDEM within thirty (30) days of RIDEM request or one hundred and eighty (180) days prior to the expiration date of this Certification. All revisions must be reviewed and approved by the RIDEM.
4. This approval does not represent an endorsement of the System by the RIDEM. This letter of approval may be reproduced only in its entirety.



Mohamed J. Freij, PE, PLS
Supervising Sanitary Engineer, OWTS Program

10.1.2020

Issuance Date