



RHODE ISLAND  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-831-5508

January 24, 2001

Ms. Angela Bounds  
Orenco Systems Inc.  
814 Airway Avenue  
Sutherlin, OR 97479

RE: AdvanTex™ - RX Treatment System

Dear Ms. Bounds:

Enclosed please find the certification for the above-named nitrogen reducing treatment system.

Please contact me at (401)222-4700 Ext. 7700 with any questions or comments on the enclosed.

Very truly yours,

Russell J. Chateaufneuf, P.E.  
Chief

RJC/sl

Enclosure



RHODE ISLAND  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

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**Innovative/Alternative ISDS Technology Program**

**Vendor Information:**

Orenco Systems Inc  
814 Airway Avenue  
Sutherlin, OR 97479

**Contact:**

Eric Ball, VP Product Development  
Terry Bounds, Executive VP  
Bill Cagle, Business Development Manager  
Tel 800-348-9843  
541-459-4449  
Fax 541-459-2884  
Website: <http://www.orenco.com>

**Technology Name & Model Numbers:**

AdvanTex™ - RX Treatment System

**Technology Type:**

Nitrogen-Reducing Treatment System  
Class II

**Certification Dates:**

**Issued:** December 11, 2000

**Revised:** January 23, 2001

**Expires:** December 31, 2002

**CERTIFICATION**

The Rhode Island Department of Environmental Management (RIDEM) has reviewed the Innovative/Alternative Technology application for the AdvanTex™ - RX Treatment System hereafter referred to as the "System". The System is a wastewater treatment technology that is designed to receive, treat, and filter septic tank wastewater through a recirculation process prior to discharge to a leachfield. The System consists of a two-compartment septic tank (or two separate tanks in series), a screened pumping assembly, a packed bed filter consisting of fibrous textile media inside a watertight container, a control panel, and a leachfield. The System is capable of significantly reducing levels of biological oxygen demand (BOD<sub>5</sub>), total suspended solids (TSS), and nitrogen in wastewater. Based upon information contained in the application submitted by the applicant, hereafter referred to as the "Vendor", the RIDEM hereby accepts the System for placement on the RIDEM Innovative/Alternative Technology List. Design, installation, and operation of the System shall be in accordance with the following terms and conditions:

**I. Design Requirements**

1. The System is recognized as nitrogen-reducing. Total nitrogen concentration in the effluent as measured at the D-Box shall not exceed 19 mg/l.
2. The System is approved for treatment of residential strength wastewater only.
3. The System shall be used in Mode 3a or Mode 3b only.
4. The first compartment of the two-compartment septic/processing tank shall have a capacity of two-thirds that required by the ISDS regulations for a single compartment septic tank, based on design flow. If two tanks in series are used in lieu of a single tank, the first tank shall have a capacity of at least two-thirds that required by the ISDS regulations for a single compartment septic tank.

5. Systems utilizing this innovative/alternative System and using a conventional drainfield shall be allowed a 50% reduction in the required leachfield size, except that deep leaching chambers and any other conventional leachfield using more than one foot of stone below shall be prohibited with or without the reduction.
6. In addition to other approved leachfield options allowed by RIDEM regulations, the effluent from the System may be discharged to a pressure-dosed shallow narrow drainfield provided the latter is designed in accordance the Vendor's Design and Installation Manual and complies with related guidance and/or regulations issued by the RIDEM. A one-foot reduction in the required design groundwater separation distance is allowed when the System is used in conjunction with the pressure-dosed shallow-narrow drainfield.
7. In any critical resource area, the System shall be required to employ a pressure dosed shallow-narrow drainfield.
8. Each System installation shall meet all other applicable RIDEM regulations and receive prior approval by the RIDEM pursuant to the regulations in effect at the time of application.
9. Design and installation shall be in strict conformance with the approved System Design and Installation Manual and shall only be performed by appropriate RIDEM licensed persons who have received training and who have been authorized in writing by the Vendor to design or install the System.

## **II. General Requirements**

1. This Class II approval shall be effective until December 31, 2002.
2. If the Vendor wishes to extend this Class II approval beyond its expiration date, he/she shall apply for and obtain a renewal of this approval. The Vendor shall submit a renewal application along with the appropriate renewal fee as denoted in SD 23(j)(4) at least 90 days in advance of the expiration date of the approval.
3. 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 technology. All provisions of this approval shall be applicable to any new owners.
4. The Vendor shall provide any purchaser of the System with a copy of this approval letter prior to the sale of the System.
5. The Vendor shall hold, or cause to be held, two training seminars for Rhode Island Licensed Designers and/or Installers before the expiration or renewal of this certification. The first shall be held within the first six (6) months of the date of this certification. The Vendor shall notify the RIDEM of the date and time of each training seminar at least one month in advance of the date of the scheduled seminar and coordinate any public announcement or solicitations with this office.

## **III. Operation and Maintenance Requirements**

1. Detailed operating instruction shall be provided to the Owner/Operator.
2. Systems shall be maintained according to the manufacturer's specifications.
3. ISDS permits issued by RIDEM for installation of the System, including operation and maintenance requirements, shall be recorded in the land evidence records of the applicable city/town prior to the RIDEM

issuance of a certificate of conformance for the installation.

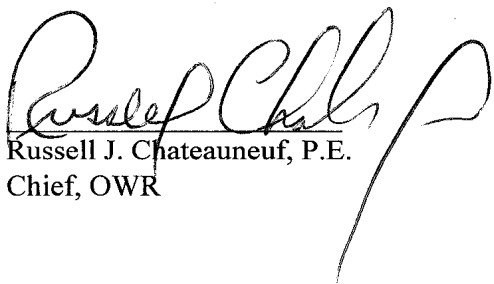
4. All Systems shall be equipped with an hour meter, an audible alarm, and a visual alarm. These indicators shall be mounted on a NEPA approved cabinet on the exterior of the building.
5. A public or private maintenance entity shall be retained continuously for the life of the System and be available to perform needed maintenance or repairs. Such entity shall perform an inspection of the treatment system at least twice annually. No agreement with a maintenance entity shall be for less than two (2) years. The Vendor shall ensure that there are an adequate number of trained maintenance professionals available locally to provide operations and maintenance services to installed units in Rhode Island.
6. The Vendor shall have an inventory of System replacement parts available locally.

#### **IV. Reporting Requirements**

1. The Vendor shall submit an annual report to RIDEM by November 30 of each year containing the following information for the previous 12 month period ending September 30 of the year: the number of systems installed in RI, the address of each installation and name of the owner and permit number, the number of inspection/maintenance calls conducted, and all known problems or failures experienced with a brief summary of the cause and remedial measures taken.
2. The Vendor shall monitor the treatment efficiency of a minimum of three representative installations of the System in Rhode Island. A representative system shall be defined as a system serving a house that is occupied by a minimum of four people year round. Grab samples shall be taken from the d-box or pump chamber prior to the leachfield. Each of the systems shall be monitored at least four times a year for a period of two years. Two samples shall be taken in the summer months and two in the winter months. At a minimum the following parameters shall be monitored: BOD5, TSS, pH, TKN, nitrate, nitrite, ammonia, and alkalinity. (Should the Vendor want recognition in the future for fecal coliform reduction, RIDEM suggests testing for fecal coliform also.) This information shall be included in the annual report submitted to RIDEM by November 30 of every year. If, at any time, the information gathered is not deemed by the Vendor to be representative of the performance of the monitored systems, additional sampling and analysis shall be conducted.
3. The Vendor shall report any termination or non-renewal of any required maintenance agreement to RIDEM and to the local wastewater management authority should one exist for that area.

#### **V. Rights of the Department**

1. RIDEM may suspend, modify or revoke this approval for cause, including but not limited to: non-compliance with any of the conditions or provisions of this approval, misrepresentation or failure to disclose 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. This approval does not represent an endorsement of the System by RIDEM. This letter of approval may be reproduced only in its entirety.

  
Russell J. Chateaufneuf, P.E.  
Chief, OWR

Date: 1/23/01