



RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

January 8, 2004

Mr. Sam Carter
Regulatory Relations Coordinator
814 Airway Avenue
Sutherlin, Oregon 97479

Dear Mr. Carter,

Please find the enclosed Certification for your AX 20 and AX 100 Systems. In order to remain on the Departments approved list you are required by SD.14.06(d)(6) of RIDEM Rules and regulations to submit:

- (A) An annual report that includes installations (to include name, address, application number, system installed), failures, reasons for failures, monitoring data when required, and any other information deemed necessary by the Director; and
- (B) Required renewal fees.

In addition please submit 10 (Ten) Copies of the approved Design and Installation Manual for our Technical Staff for future plan reviews.

Please ensure that all future Design and Installation manuals provided to the Rhode Island Design Community include a copy of the attached certification.

If you have any questions or comments please contact me at 401-222-4700, ext. 7714

Sincerely,

Peter O' Rourke
Environmental Scientist



**RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**

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Innovative/Alternative ISDS Technology Program

Vendor Information

Orenco Systems, Inc.
814 Airway Avenue
Sutherlin, OR 97479

Contacts:

Eric Ball, VP Product Development
Terry Bounds, Executive VP
Sam Carter, Regulatory Relations
Coordinator
Tel: (800) 348-9843
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Website: <http://www.orenco.com>

Local Contacts:

Atlantic Solutions
2417 East Main Road
Portsmouth, RI 02871
Tel: (401) 293-0176

Wastewater Technologies, Inc.
P.O. Box 7665
Warwick, RI 02887
Tel: (401) 737-7810

Technology Name and Model Number:

AdvanTex®-AX 20, AX100, Treatment Systems

Technology Type:

Filter Treatment System
Class II

Certification Date:

Issued: 01/07/2004

Expires: 12/31/2005

CERTIFICATION

The RI Department of Environmental Management has reviewed the Innovative/ Alternative Technology application for the AdvanTex™ - AX Treatment System hereafter referred 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 a 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 sheet media inside a watertight container, a control panel, and a leachfield. The System is capable of significantly reducing levels of biological oxygen demand (BOD) and total suspended solids (TSS). 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. All commercial Advantex AX designs must be reviewed and deemed acceptable to the Vendor prior to submittal to RIDEM.
2. All Residential Systems shall be used in Mode 3a or Mode 3b only.
3. Commercial Systems shall be configured in Mode 3 to achieve maximum Nitrogen Reduction whenever possible.
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. No system where design flow exceeds 900gpd shall employ the use of a BSF as the final means of disposal without technical studies to address the possible adverse effects as indicated in the BSF guidance document issued by RIDEM.
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 with 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 or bottomless sand filter.
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 the expiration date indicated above.

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(1)(4) of the RIDEM ISDS regulations 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 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. Operations 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 by the owner in the land evidence records of the applicable city/town prior to the RIDEM issuance of a certificate of conformance for the installation.
4. The owner shall retain a public or private entity to perform preventative maintenance, perform repairs and respond to emergency calls for the life of the system. Such entity shall perform inspections at least twice annually and shall receive prior training as approved by the Vendor. No agreement with a maintenance entity shall be for less than 2 years. A list of trained maintenance providers with at least two names shall be submitted by the Vendor to the Department within 6 months of this approval. The trained maintenance provider shall have the capability of performing maintenance on the approved leach field and shall offer to perform such maintenance if requested by the owner.

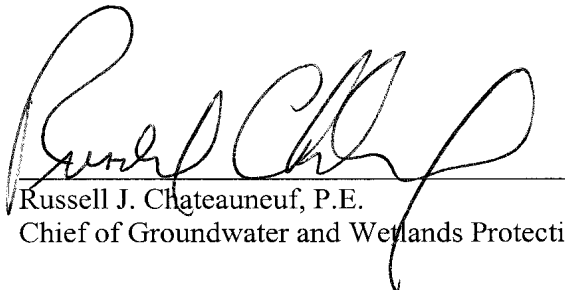
IV. Reporting Requirements

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, alkalinity and fecal coliform. 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. Chateauf, P.E.
Chief of Groundwater and Wetlands Protection

Issuance Date: 1/8/04