Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
One Winter Street Boston, MA 02108 • 617-292-5500

PROVISIONAL USE APPROVAL
Pursuant to Title 5, 310 CMR 15.000

Name and Address of Applicant:

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

Trade name of technology and models:

Advantex Wastewater Treatment System Models AX20, AX20-RT, AX25-RT and AX100 (hereinafter the "System"). Schematic drawings illustrating the AX20 and AX100 units and their technology checklists are attached and are part of this Certification.

DEP Transmittal Number: X267024

Date of Issuance: July 14, 2010, revised May 22, 2014
Renewed and Modified August 31, 2015
Expiration date: August 31, 2020

Authority for Issuance

Pursuant to Title 5 of the State Environmental Code, 310 CMR 15.000, the Department of Environmental Protection (hereinafter “the Department”) hereby issues this Provisional Approval to: Orenco Systems, Inc., 814 Airway Avenue, Sutherlin, OR 97479 (hereinafter "the Company"), approving the Advantex models AX20, AX20-RT, AX25-RT and AX100 (hereinafter “the Technology” or “System”) for use in the Commonwealth of Massachusetts subject to the conditions herein. Sale and use of the Technology are subject to compliance by the Company, the Designer, the System Installer, the Operator, and the System Owner with the terms and conditions herein. Any noncompliance with the terms or conditions of this Certification constitutes a violation of 310 CMR 15.000.

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David Ferris, Director
Wastewater Management Program
Bureau of Resource Protection

Date

I. Purpose

Subject to the conditions of this Approval and any other local requirements, the purpose of this Approval is to allow installation and operation of at least 50 on-site sewage disposal systems utilizing the Technology in Massachusetts in order to conduct a performance evaluation of the capabilities of the Technology during the first 3 years of operation of each system, in accordance with Title 5 – 310 CMR 15.286 (7), *Provisional Approval of Alternative System*.

The specific goal of the Performance Evaluation is to determine if the Technology is capable of consistently meeting the concentration limits for total nitrogen (TN) of 19 or 25 milligrams per liter (mg/L) for installations with design flows less than 2,000 GPD and 25 mg/L for installations with design flows 2,000 GPD or greater but less than 10,000 gpd, in the effluent discharged to the soil absorption system. In areas subject to nitrogen loading limitations, increases in the discharge rate per acre may be allowed when the nitrogen concentration discharged to the soil is reduced.

The Company is responsible for oversight and sampling of the systems during the Performance Evaluation. For Systems less than 2,000 GPD the Owner has responsibility for continued oversight and sampling of the system if the property served has a design flow rate per acre greater than 440 gallons per day per acre (gpda) in an area subject to Nitrogen Loading Limitations. The System Owner will be required to repair, replace, modify or take any other action as required by the Department or the local approving authority, if the Department or the local approving authority determines that the System is not capable of meeting the required reduction in nitrogen in the effluent. For Systems 2,000 GPD or greater the Owner has responsibility for continued oversight and sampling.

II. General Description of the Technology

The System is installed between the building sewer and the soil absorption system (SAS) of a standard Title 5 system in a manner which neither intrudes on, replaces a component of, or adversely affects the operation of a Title 5 system constructed in accordance with 310 CMR 15.000, subject to the provisions of this Approval.

<u>AdvanTex AX-RT Series (AX20-RT and AX25-RT</u>)

The AX-RT series consists of an 800 gallon two-chamber fiberglass reinforced polyester (FRP) recirculating treatment tank, preceded by a separate septic tank with effluent filter. The engineered textile media is suspended from the top the treatment tank with a portion of the positioned over the first compartment (the recirc/blend chamber). The remainder of media is positioned over the second compartment (the recirc/filtrate chamber) from which filtrate (treated effluent) is discharged. The two chambers are separated by a baffle wall. A recirculating pump draws water from the first compartment of the recirculating tank, and sprays it onto the top surface of the textile media at regular timed intervals to achieve a recirculation ratio of between 3:1 to 5:1. Filtrate drains from the textile media back into the two chambers. Timer settings can be adjusted if actual flows vary significantly from projected flows.

The baffle wall between the chambers is fitted with a recirc-return valve for equalization during low-flow periods. Under low daily flow conditions, the valve allows 100% of the filtrate to be

returned to the recirc/blend chamber for continued recirculation. The recirc-return valve is similar to a check valve in that it allows preferential flow in one direction only – in this case, from the recirc/filtrate chamber to the recirc/blend chamber.

The recirc-return valve closes when the liquid head on the recirc/blend side is equal to or greater than the liquid head on the recirc/filtrate side. When the liquid head on the recirc/filtrate side is higher, the pressure differential pushes the recirc return valve open for filtrate to pass back to the recirc/blend side of the baffle, thus providing for continued recirculation during periods of low or no inflow. Flow from the recirc/blend chamber can pass to the recirc/filtrate chamber only through the treatment media.

AdvanTex AX20 and AX100

The System is a multi-pass, packed bed aerobic wastewater treatment system designed to treat residential strength wastewater from facilities with a design flow of less than 10,000 gpd. The System is comprised of a pre-assembled, UV-protected fiberglass reinforced plastic (FRP) module that contains a textile media filter, installed on top of a two compartment Processing Tank with a minimum capacity of 1500 gallons. The first compartment receives and separates the raw sewage into three zones: a scum zone, a sludge zone and a clear zone. A flow through port in the tank baffle wall allows effluent from the clear zone to the second compartment of the tank. A Biotube Pump Package installed in the second compartment of the Processing Tank pumps effluent to a pressure distribution manifold located on top of the textile media in the filter module. The effluent is applied at a preset recirculation ratio of between 3:1 to 5:1, controlled by a timer. Timer settings can be recalibrated if flows vary significantly from projected flows.

Effluent from the filter module flows in part or totally to the Processing Tank (where applicable) or to an external pump chamber or distribution box. During extended periods of low flow, all of the treated effluent is returned to the Processing Tank or external pump chamber. Filtrate from the System textile filter modules flows through a conveyance pipe/underdrain to a flow splitting valve and discharges back to the Processing Tank, or to a final effluent pump chamber for discharge by pressure distribution or to a distribution box for gravity discharge, to the soil absorption system (SAS). The filter modules are equipped with UV protected, removable FRP composite lids and contain one inch of insulation on the underside of the lid.

The Biotube Pump Package controls are equipped with high water level override and high water alarm. The alarm and control circuits are connected to an independent power source run from the main power source of the facility. The Biotube Pump Package is designed to allow all piping to drain back to the Processing Tank. The Package is equipped with a removable filter cartridge that is equivalent to a Department approved septic tank effluent tee filter.

Systems designed for residential facilities in excess of six bedrooms, and any design using AX100 units, requires installation of a separate septic tank constructed in accordance with 310 CMR 15.223 through 15.226, sized a minimum of 2.2 times the facility design flow and located prior to the filter module. These Systems also include a separate processing or recirculation tank sized equal to the facility design flow or a minimum of 1000 gallons in accordance with the Company's design criteria. Single or multiple System units can be used in combination to serve various sized or multiple facilities.

The System can be equipped with a Vericomm or TCOM control panel (CP) which is attached to an Internet web based interface, or connected to a dedicated phone line, that provides continuous remote monitoring, maintenance information, management and control of each individual system. The CP provides the contracted operation and maintenance (O&M) provider with information to manage incoming alarms 24 hours per day through automatic notification, pre-established alarm protocol, a list of all active alarms, diagnostic data and input and review of alarm responses. The CP provides for site management through editable information, a tabular display of all operating data facilitating standard and custom reporting. The CP unit typically transmits report information to the O&M provider and the manufacturer of the System. If enabled, System information can be tracked using AdvanTexdealer.com, a web based program used to track and update site information, manage contact information, generate and print reports and audit checklists.

All access ports and manhole covers shall be installed at grade to allow for maintenance of the System. The control panel including alarms shall be mounted in a location accessible to the operator of the System.

The use of the Technology under this Approval requires:

- Disclosure Notice in the Deed to the property;
- Certifications by the Company, the Designer, and the Installer;
- System Owner Acknowledgement of Responsibilities;
- A certified operator under contract for periodic inspection and maintenance;
- Periodic sampling;
- Recordkeeping and reporting; and
- An external power supply.

III. Conditions of Approval

A. Basis for Conditions

1. The term "System" refers to the Technology in combination with any other components of an on-site treatment and disposal system that may be required to serve a Facility in accordance with 310 CMR 15.000.

2. The term "Approval" includes the Special Conditions, Standard Conditions, General Conditions of 310 CMR 15.287, and the approved Attachments.

3. Items required by this Approval include:

   a) Performance Evaluation Plan (PEP) with sampling and analysis requirements and approved by the Department. The PEP must be submitted to the Department for review and approval within 60 days of issuance of this Approval and meet the requirements of the Department's *Guidance for the Preparation of Performance Evaluation Plans < 2,000 GPD*, and, *Guidance for the Preparation of Performance Evaluation Plans 2,000 GPD or Greater*;

b) minimum System installation requirements;

c) company schematic drawings and specifications;

d) Owner's Manual, including information on substances that should not be discharged to the System;

e) Operation and Maintenance manual, including but not limited to, operator qualification requirements, inspection requirements, sampling and analysis requirements, recordkeeping requirements, and/or reporting requirements; and

f) MassDEP Operation and Maintenance (O&M) and I/A Technology Inspection Checklists.

B. Special Conditions for all Systems

1. Department review and approval of the System design and installation is not required unless the Department determines on a case-by-case basis pursuant to its authority at 310 CMR 15.003(2)(e) that the proposed System requires Department review and approval.

2. Any System for which a complete Disposal System Construction Permit Application is submitted while this Approval is in effect, may be permitted, installed, and used in accordance with this Approval unless the Department, the local approval authority, or a court requires the System to be modified or removed or requires discharges to the System to cease.

3. The System Owner shall provide access to the site for purposes of sampling the System in accordance with the Company's technology Performance Evaluation Plan approved by the Department, in addition to providing access for performing inspections, maintenance, repairs, and responding to alarm events.

4. The System Owner shall ensure that no permanent buildings or structures, other than the System, are constructed in the area for the installation of all the components of a fully conforming Title 5 system with a reserve area. The area for a fully conforming Title 5 system with a reserve area shall not otherwise be disturbed by the System Owner in any manner that will render it unusable for future installation of a fully conforming Title 5 system.

5. The Department has not determined that the performance of the System will provide a level of protection to public health and safety and the environment that is at least equivalent to that of a sanitary sewer system. Accordingly, the Designer shall not propose and the System Owner shall not construct a new system or an upgrade or expansion of an existing system if it is feasible to connect the facility to a sanitary sewer. When a sanitary sewer connection becomes feasible, the facility served by the System shall be connected to the sewer within 60 days of such feasibility and the System shall be abandoned in compliance with 310 CMR 15.354, unless a later time is allowed in writing by the Department.

6. For the purposes of inspection and maintenance, all System tanks, access ports, and manholes shall have readily removable impermeable covers of durable material provided at grade, except the septic tank access covers are not required to be at grade. The System processing tank's two manholes, over the inlet and outlet, shall have a minimum opening of 20 inches. No structures shall be located directly upon or above the access locations which could interfere with performance, access, inspection, pumping, or repair.

7. The control panel including alarms shall be mounted in a location accessible to the System Operator.

Operation and Maintenance

8. Inspection, operation and maintenance (O & M), sampling, and field testing of the System required by this Approval shall be performed by a System Operator with the following qualifications:

   a) is an approved System Inspector in accordance with 310 CMR 15.340;

   b) has been trained by the Company and whose name appears on the Company's current list of qualified operators; and

   c) has been certified at a minimum of Grade Level 4 (four) by the Board of Registration of Operators of Wastewater Treatment Facilities, in accordance with Massachusetts regulations 257 CMR 2.00. The name of the Operator shall be included in the O&M agreement required by Paragraph B (9).

9. Prior to the use of the System, the System Owner shall enter into an O&M Agreement with a qualified contractor and submit the Agreement to the Approving Authority and the Company. The Agreement shall be at least for one year and include the following provisions:

   a) The System Operator must have the qualifications specified in Paragraph B (8).
   b) The System Operator must inspect the System in accordance with the Approval and anytime there is an equipment failure, System failure, or other alarm event;
   c) In the case of a System failure, an equipment failure, alarm event, components not functioning as designed or in accordance with the Company specifications, or violations of the Approval, procedures and responsibilities of the Operator and System Owner shall be clearly defined for corrective measures to be taken immediately. The System Operator shall agree to provide written notification within five days describing corrective measures taken to the System Owner, the Company, and the local board of health.
   d) The System Operator shall determine the cause of total nitrogen effluent limit violations if they occur and take corrective actions in accordance with the approved O & M Manual.
   e) Procedures and responsibilities for recording quarterly or monthly wastewater flows must be defined, see Paragraph C (7), Flow Metering.

10. At all times, the System Owner shall maintain an O & M Agreement that meets the requirements of Paragraph B (9).

11. The System Owner and the System Operator shall properly operate and maintain the system in accordance with this Approval, the Designer's operation and maintenance requirements, and the requirements of the local approving authority.

Recordkeeping and Reporting

12. Upon determining that the System has failed, as defined in 310 CMR 15.303, the System Operator shall notify the System Owner immediately.

13. Upon determining that the System has failed, as defined in 310 CMR 15.303, the System Owner and the System Operator shall be responsible for the notification of the local approving authority within 24 hours of such determination.

14. In the case of a System failure, an equipment failure, alarm event, components not functioning as designed or in accordance with the Company specifications, or any violations of the Approval, the System Owner and the System Operator shall be responsible for the written notification of the local approving authority and the Company within five days describing corrective measures taken.

15. Within 60 days of any site visit, the System Operator shall submit an O&M report and inspection checklist to the System Owner and the Company. The O&M report and inspection checklist shall include, at a minimum:
    a) for a System failing, any corrective actions taken.;
    b) wastewater analyses, wastewater flow data, and field testing results;
    c) any violations of the Approval;
    d) any determinations that the System or its components are not functioning as designed or in accordance with the Company specifications; and
    e) any other corrective actions taken or recommended.

16. By February 15th of each year, the System Owner shall submit to the local approving authority all monitoring results with all O&M reports and inspection checklists completed by the System Operator during the previous 12 months.

17. A copy of the wastewater analyses, wastewater flow data, field testing results, and System Operator O&M reports and inspection checklists shall be maintained by the Company. It is recommended the System Owner also maintain copies of these items.

18. The System Owner shall notify the Approving Authority in writing within seven days of any cancellation, expiration or other change in the terms and/or conditions of the O&M Agreement required by Paragraph B (9).

C. Special Conditions For Systems less than 2,000 GPD

The Technology is approved for use with a System serving a facility with a maximum design flow of less than 2,000 gallons per day, subject to the following additional conditions:

1. The System may only be installed to serve facilities where a fully conforming Title 5 system with a reserve area exists on-site or could be built on-site in compliance with the design standards for new construction of 310 CMR 15.000, and for which a site evaluation in compliance with 310 CMR 15.000 has been approved by the Approving Authority. A fully conforming Title 5 system may include other approved alternative technologies in accordance with the conditions imposed on the alternative technologies.
2. Subject to the provisions of this Approval, the Technology shall be installed in a manner which neither intrudes on, replaces a component of, or adversely affects the operation of all other components of the System designed and constructed in accordance with the standards for new construction of 310 CMR 15.200 - 15.279.

<u>Effluent Limit and Monitoring Requirements for Systems less than 2,000 GPD</u>,

3. If the System is installed to serve new construction in an area that is subject to the Nitrogen Loading Limitations of 310 CMR 15.214 and the facility does not meet with the Nitrogen Loading Limitations pursuant to the aggregation provisions of 310 CMR 15.216, the System shall not be designed to receive and shall not receive more than 440 gallons of design flow per day per acre (gpda), except:
   a) For any facility, an increase in the flow rate per acre is allowed up to a design flow up to 550 gpda provided that the facility meets a TN effluent limit of 25 mg/l or less, or
   b) For residential facilities only, an increase in the flow rate per acre is allowed up to a design flow up to 660 gpda provided that the facility meets a TN effluent limit of 19 mg/l or less.

   The System Owner shall repair, replace, modify or take any other action as required by the Department or the local approving authority, if the Department or the local

   approving authority determines that the System is not capable of meeting the total nitrogen concentration limits in the effluent.

   Violation of the TN concentration in the System effluent shall not require notifications as required in Paragraphs B(12) and (13).
4. Prior to Department approval of the Company's Performance Evaluation Plan, the Company shall be responsible for the following monitoring requirements for all System installations that are subject to a total nitrogen concentration limit in accordance with Paragraph C (3). Sampling shall include pH, BOD_5, TSS and Total Nitrogen, unless otherwise stated. Flow shall be recorded at each inspection, see "Flow Metering" below.
   a) Year-round facilities shall be inspected and effluent sampled quarterly.
   b) Seasonal properties shall be inspected and effluent sampled a minimum of twice per year, with at least one annual sample taken 30 to 60 days after seasonal occupancy and a second sample taken no less than 2 months after the first sample.

c) After 12 rounds of monitoring, sampling may be reduced to TN only quarterly. Reduced sampling shall also include Field Testing of System wastewater when determined necessary by the System operator, see *DEP Field Testing Protocol* at http://www.mass.gov/dep/ water/laws/policies.htm#t5pols.

Properties occupied at least 6 months per year are considered year-round properties. Properties occupied less than 6 months per year are considered seasonal properties.

5. During the Performance Evaluation period, the Company shall follow the monitoring requirements specified in the Performance Evaluation Plan for installed Systems.

6. After the three (3) year Performance Evaluation period by the Company and approval by the Department, and until this Approval is modified, terminated, or superseded by a General Use Certification, the System Owner shall comply with the following monitoring requirements if the System is subject to a total nitrogen concentration limit in accordance with Paragraph C (3).

   a) Year-round properties shall be inspected and sampled for at least the TN parameter a minimum of twice/year, at least 5 months apart and with at least one sample taken between December 1 and March 1 of each year. Field testing shall be completed as determined necessary by the System operator, see *DEP Field Testing Protocol* at *http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/testsamp.pdf*. Water meter readings shall be recorded at each inspection, see "Flow Metering" below.

   b) Seasonal properties shall be sampled for at least the TN parameter a minimum of twice/year. At least one annual sample must be taken 30 to 60 days after each seasonal occupancy. A second sample must be taken no less than 2 months after the first sample. Field testing of the System shall be completed as determined necessary by the operator. Water meter readings shall be recorded at each inspection, see "Flow Metering" below.

7. Flow Metering - At a minimum, for all systems installed prior to this Approval, water meter flow data shall be recorded each time the system is inspected and sampled by the System Operator. For systems installed after the effective date of this Approval, wastewater flow data shall be recorded each time the system is inspected and sampled by the System Operator and may be based on:

   a) actual metering data of wastewater flow to the system; or

   b) water meter data for the total facility with metered non-wastewater flows, if available, subtracted from the total facility water usage.

8. Field Testing: Turbidity, pH and Apparent Color - Turbidity, pH, DO and apparent color shall be measured and/or recorded in the field when determined necessary by the operator. See applicable sections of the Department's *Field Testing Protocol* at *http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/testsamp.pdf*.

9. At a minimum, the System Operator shall inspect the System:
   a) two times per year;

b) in accordance with the approved O&M manual, the Designer's operation and maintenance requirements, and the requirements of the local approving authority; and

c) any time there is an alarm event, equipment failure, or system failure

10. The System Operator shall collect samples and obtain analysis results from an approved lab, perform field testing required by the Approval and submit results within 60 days of the site visit to the System Owner.

11. If the Company successfully demonstrates the effectiveness of the System to reduce nitrogen loadings during the Performance Evaluation period, a minimum of three years, the System Owner shall operate the System subject to the requirements of the General Use Certification, if issued, for this technology.

III. D. Special Conditions for Systems 2,000 to less than 10,000 GPD

The Technology is approved for use with a System serving a facility with a minimum design flow of 2000 gallons per day and a maximum design flow less than 10,000 gallons per day (GPD), subject to the following additional conditions:

1. The approved technology may be substituted for the RSF as a required component of a System designed to serve a facility or facilities with a design flow of 2,000 gpd or more to be located in a Nitrogen Sensitive Area in accordance with the requirements of 310 CMR 15.202. When substituted for the RSF, the design, installation, use, and operation of the System shall comply with all the conditions of 310 CMR 15.202(1) to 15.202(5) applicable to an RSF or an equivalent alternative technology, except those provisions that specifically have been varied by the conditions of the Approval.

2. The System shall include the installation of a septic tank, designed in accordance with 310 CMR 15.223 – 15.229, connected to the building sewer and followed by the Technology installed in series between the septic tank and the SAS. Subject to the provisions of this Approval, the Technology shall be installed in a manner which neither intrudes on, replaces a component of, or adversely affects the operation of all other components of the System designed and constructed in accordance with the standards for new construction of 310 CMR 15.200 - 15.279.

<u>Effluent Limits and Monitoring Requirements for Systems 2,000 to 10,000 GPD</u>,

3. If the System is installed to serve new construction in an area that is subject to the Nitrogen Loading Limitations of 310 CMR 15.214 and the facility does not meet with the Nitrogen Loading Limitations pursuant to the aggregation provisions of 310 CMR 15.216, the System shall not be designed to receive and shall not receive more than 440 gallons of design flow per day per acre (gpda), except an increase in the flow rate per acre is allowed up to a design flow up to 550 gpda provided that the facility meets a TN effluent limit of 25 mg/l or less.

   The System Owner shall repair, replace, modify or take any other action as required by the Department or the local approving authority, if the Department or the local

approving authority determines that the System is not capable of meeting the total nitrogen concentration limits in the effluent.

Violations of the total nitrogen concentration in the System effluent shall not constitute a failure of the System for the purposes of reporting as required in Paragraphs B (12) and (13).

4. Effluent Total Nitrogen - The System shall not exceed a TN concentration of 25 mg/l in the System effluent.

5. Effluent BOD5, TSS and pH - If the System is located in a Nitrogen Sensitive Area, the effluent discharge concentrations shall not exceed secondary treatment standards of 30 mg/L BOD_5 and 30 mg/L TSS and the effluent pH range shall be 6.0 to 9.0.

6. Prior to Department approval of the Company's Performance Evaluation Plan, the Company shall be responsible for the following monitoring requirements for all System installations that are subject to a total nitrogen concentration limit in accordance with Paragraph D (3). Sampling shall include pH, BOD_5, TSS and TN, unless otherwise stated. Flow shall be recorded at each inspection, see "Flow Metering" below.

   a) For year-round properties, if the facility is not in a Nitrogen Sensitive Area, the effluent shall be monitored monthly for 36 months and monitored thereafter for Total Nitrogen only on a quarterly basis. Reduced sampling shall include Field Testing of System wastewater when determined necessary by the operator.

   b) For year-round properties, if the facility is located in a Nitrogen Sensitive Area:

      (i) For year-round properties, if the facility is located in a Nitrogen Sensitive Area, the effluent shall be monitored monthly for 36 months and monitored thereafter for pH, BOD_5, TSS and Total Nitrogen on a quarterly basis.

      (ii) The influent shall be monitored quarterly for pH, BOD_5, TSS and Total Nitrogen for a minimum of 12 quarters.

   c) Seasonal properties shall be inspected and sampled monthly only when occupied.

   Properties occupied at least 6 months per year are considered year-round properties. Properties occupied less than 6 months per year are considered seasonal properties.

7. During the Performance Evaluation period, the Company shall follow the monitoring requirements specified in the Performance Evaluation Plan for installed Systems.

8. Upon completion of the Performance Evaluation, after the Performance Evaluation period by the Company, and until this Approval is modified, terminated, or superseded by a General Use Certification, the System Owner shall comply with the following monitoring requirements:

   a) If the System is located in a Nitrogen Sensitive Area, the System Owner shall comply with the following monitoring requirements for TN:

      (i) Year-round facilities shall be sampled a minimum of once/quarter, at least 2 months apart.

(ii) Seasonal properties shall be sampled a minimum of twice/year. At least one annual sample must be taken 30 to 60 days after occupancy. A second sample must be taken no less than 2 months after the first sample.

b) If the System is subject to a total nitrogen concentration limit in accordance with Paragraph D (3), the System Owner shall monitor only total nitrogen according to the frequency requirements of Paragraphs D (8)(a)(i & ii).

c) Year-round properties, and seasonal facilities when occupied, shall be inspected a minimum of quarterly and sampled for at least the TN parameter. Field Testing of System wastewater shall also be completed as determined necessary by the operator, see *DEP Field Testing Protocol* at *http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/testsamp.pdf*. Water meter readings shall be recorded at each inspection, see "Flow Metering" below.

d) The System Owner shall not be required to monitor influent BOD_5, TSS, pH, and TN as specified in 310 CMR 15.202 (4)(c).

Properties occupied at least 6 months/year are considered year-round properties. Properties occupied less than 6 months/year are considered seasonal properties.

9. At a minimum, the System Operator shall inspect the System:
   a) once per quarter.
   b) in accordance with the approved O&M manual, the Designer's operation and maintenance requirements, and the requirements of the local approving authority; and
   c) anytime there is an alarm event, equipment failure, or system failure.

10. Flow Metering - At a minimum, for all systems installed prior to this Approval, water meter flow data shall be recorded each time the system is inspected and sampled by the System Operator. For systems installed after the effective date of this Approval, wastewater flow data shall be recorded each time the system is inspected and sampled by the System Operator and may be based on:
    a) actual metering data of wastewater flow to the system; or
    b) water meter data for the total facility with metered non-wastewater flows, if available, subtracted from the total facility water usage.

11. Field Testing: pH, DO, turbidity and color shall be measured and/or recorded in the field when determined necessary by the operator. See applicable sections of the Department's *Field Testing Protocol* at *http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/testsamp.pdf*.

III. E. Special Conditions Specific to the Company

1. The Approval shall only apply to model units with the same model designations specified in this approval and meet the same specifications, operating requirements, and plans, as provided by the manufacturer at the time of the application. Any proposed

modifications of the units shall be subject to the review of the Department for coverage under the Approval.

2. The Company shall implement the Performance Evaluation Plan, as submitted and approved by the Department, and shall be responsible for all data collection and submissions to the Department until a final determination on the Performance Evaluation has been made by the Department.
3. Until a final determination has been made by the Department on a completed Performance Evaluation, the Company shall submit to the Department an annual report by February 15th of each year that includes the following:
   a) a table of all sample data collected for all systems installed to date and all information required by the Department as part of the approved Performance Evaluation Plan;
   b) any recommended changes to the approved Performance Evaluation Plan; and
   c) a list of pending applications for system installations which have been submitted to local approving authorities.
4. The Company shall institute and maintain a program of Installer training and continuing education that is at least offered annually. The Company shall maintain and annually update, and make available the list of qualified Installers by February 15th of each year. The Company shall certify that the Installers on the list have taken the training and passed the Company's training qualifications.
5. The Company shall institute and maintain a program of Designer training and continuing education, as approved by the Department. The Company shall maintain and annually update, and make available the list of qualified Designers by February 15th of each year. The Company shall certify that the Designers on the list have taken the training and passed the Company's training qualifications.
6. The Company shall institute and maintain a program of Operator training and continuing education, as approved by the Department. The Company shall maintain and annually update, and make available the list of qualified Operators by February 15th of each year. The Company shall certify that the Operators on the list have taken the training and passed the Company's training qualifications.
7. The Company shall not sell the Technology to an Installer unless the Installer is trained to install the System by the Company.

IV. Certification and Notification Requirements

1. Thirty (30) days prior to submitting an application for a DSCP, the Company or its representative shall provide to the Approving Authority a certification, signed by the owner of record for the property to be served by the unit, stating that the property owner:
   a) has been provided a copy of the Provisional Use Approval and all attachments and agrees to comply with all terms and conditions;
   b) has been informed of all the owner's costs associated with the operation including power consumption, maintenance, sampling, recordkeeping, reporting, and equipment replacement;

c) understands the requirement for a contract with a company approved operator and has been provided a current list of all approved operators;
d) agrees to fulfill his responsibilities to provide a Deed Notice as required by 310 CMR 15.287(10) and the Approval; and
e) agrees to fulfill his responsibilities to provide written notification of the Approval conditions to any new owner, as required by 310 CMR 15.287(5).

2. Upon submission of an application for a DSCP to the Approving Authority, the Company shall submit to the Approving Authority, with a copy to the Designer and the System Owner, a certification by the Company or its authorized agent that the design conforms to this Approval and that the proposed use of the System is consistent with the unit's capabilities and all Company requirements. The review shall include evaluation of the need for installation of water meter(s) at each facility. An authorized agent of the Company responsible for the design review shall have received technical training in the Company's products.

3. The System Designer shall be a Massachusetts Registered Professional Engineer**,** or a Massachusetts Registered Sanitarian provided that such Sanitarian shall not design a system with a discharge greater than 2,000 gallons per day.

4. Thirty (30) days prior to delivery of the treatment unit to the site for installation, the Company shall provide to the Approving Authority a copy of a signed contract for a minimum period of one year with a Company approved Operator and the initial Owner/Occupant of the property.

5. Prior to the commencement of construction, the System Installer must certify in writing to the Designer and the System Owner that (s)he has taken the Company's training, passed the Company's training qualifications, and is listed on the Company's list of Installers.
6. Prior to the issuance of a Certificate of Compliance by the Approving Authority:

a) In accordance with 310 CMR 15.021(3), the System Installer and Designer must certify in writing that the System has been constructed in compliance with 310 CMR 15.000, the approved design plans, and all local requirements, including any local approving authority site-specific requirements;

b) In accordance with 310 CMR 15.021(3), the Designer must certify in writing that any changes to the design plans have been reflected on as-built plans which have been submitted to the Approving Authority by the Designer;

c) As a condition of this Approval, the System Installer and Designer must certify to the Approving Authority in writing that the System has been constructed in compliance with the terms of this Approval;

d) An authorized agent of the Company must certify to the Approving Authority in writing that the installation was done by a qualified Installer approved by the Company and the installation conforms to this Approval**.** The authorized agent of the Company responsible for the inspection of the installation shall have received technical training in the Company's products; and

e) Prior to signing any agreement to transfer any or all interest in the property served by the system, or any portion of the property, including any possessory interest, the System Owner shall provide written notice of all conditions contained in the Approval to the transferee(s). Any and all instruments of transfer and any leases or rental agreements shall include as an exhibit attached thereto and made a part of thereof a copy of the Approval for the System. The System Owner shall send a copy of such written notification(s) to the Local Approving Authority within 10 days of such notice being given.

V. Standard Conditions

1. The provisions of 310 CMR 15.000 are applicable to the design, installation, use and operation of a System utilizing an approved or certified alternative technology, except those provisions that specifically have been varied by the conditions of this Approval.

2. The design, installation, and use of the System must conform to the terms and conditions of the Approval and the Department approved attachments.

3. The facility served by the System and the System itself shall be open to inspection and sampling by the Department and the local approving authority at all reasonable times.

Standard Conditions Applicable to the System Owner

4. This Approval shall be binding on the System Owner and on its agents, contractors, successors, and assigns. Violation of the terms and conditions of this Approval by any of the foregoing persons or entities, respectively, shall constitute violation of this Approval by the System Owner unless the Department determines otherwise.

5. The System Owner shall obtain all necessary permits and approvals required by 310 CMR 15.000 prior to the installation and use of the System in Massachusetts.

6. The System is approved for the treatment and disposal of sanitary sewage only. The System Owner shall not introduce any wastes that are not sanitary sewage into the System. The System Owner shall dispose of wastes generated or used at the facility that are not sanitary sewage by other lawful means.

7. Prior to issuance of the Certificate of Compliance and after recording and/or registering the Deed Notice required by 310 CMR15.287(10), the System Owner shall submit the following to the Local Approving Authority: (i) a certified Registry copy of the Notice bearing the book and page/or document number; and (ii) if the property is unregistered land, a Registry copy of the System Owner's deed to the property, bearing a marginal reference on the System Owner's deed to the property. The Notice to be recorded shall be in the form of the Notice provided by the Department.

8. The System Owner shall at all times have the installed System properly operated and maintained in accordance with the most recent O&M provisions of this Approval for the alternative technology and in accordance with any additional requirements of the

Approving Authority. The most recent O&M provisions of this Approval for the alternative technology are available from the Department.

9. The System Owner shall furnish the Department any information that the Department requests regarding the System, within 21 days of the date of receipt of that request.

Standard Conditions Applicable to the Designer

10. The Designer shall be a Massachusetts Registered Professional Engineer or a Massachusetts Registered Sanitarian, including when designing systems for repair, provided that such Sanitarian shall not design a system to discharge more than 2,000 gallons per day.

11. Prior to the application for a DSCP, the Designer shall provide the System Owner with a copy of this Approval.

Standard Conditions Applicable to the Company

12. This Approval shall be binding on the Company and its officers, employees, agents, contractors, successors, and assigns. Violation of the terms and conditions of this Approval by any of the foregoing persons or entities, respectively, shall constitute violation of this Approval by the Company unless the Department determines otherwise.

13. The Company shall include copies of the Approval with each System that is sold. In any contract executed by the Company for distribution or re-sale of the System, the Company shall require all vendors, distributors, and resellers to provide each purchaser of the System with copies of the Approval.

14. The Company shall make available, in printed and electronic format, the approved Attachments and any approved updates associated with the Approval, to the System Owners, Operators, Designers, Installers, vendors, resellers, and distributors of the System.

15. The Company shall submit to the Department for approval any proposed updates or changes to the Attachments to the Approval.

16. The Company shall notify all System Owners, resellers, and distributors of changes to the Approval within 60 days of issuance by the Department.

17. The Company shall notify the Department's Director of the Wastewater Management Program at least 30 days in advance of the proposed transfer of ownership of the Technology for which the Approval is issued. Said notification shall include the name and address of the proposed owner containing a specific date of transfer of ownership, responsibility, coverage and liability between them. All provisions of the Approval applicable to the Company shall be applicable to successors and assigns of the Company, unless the Department determines otherwise.

18. The Company shall furnish the Department any information that the Department requests regarding the Technology within 21 days of the date of receipt of that request.

19. If the Company wishes to continue the Approval after its expiration date, the Company shall apply for and obtain a renewal of the Approval. The Company shall submit a renewal application at least 180 days before the expiration date of the Approval, unless written permission for a later date has been granted in writing by the Department. Upon receipt of a timely and complete renewal application, the Approval shall continue in force until the Department has acted on the renewal application.

Reporting

20. All notices and documents required to be submitted to the Department by the Approval shall be submitted to:

Director
Wastewater Management Program
Department of Environmental Protection
One Winter Street - 5th floor
Boston, Massachusetts 02108

Rights of the Department

21. The Department may suspend, modify or revoke the Approval for cause, including, but not limited to, noncompliance with the terms of the Approval, non-payment of any annual compliance assurance fee, for obtaining the Approval by misrepresentation or failure to disclose fully all relevant facts or any change in or discovery of conditions that would constitute grounds for discontinuance of the Approval, or as necessary for the protection of public health, safety, welfare, or the environment, and as authorized by applicable law. The Department reserves its rights to take any enforcement action authorized by law with respect to the Approval and/or a System utilizing the Technology against the Company, the Designer, the System Owner, the Installer, and/or the Operator of the System.

VI. General Conditions

Title 5 Regulations 310 CMR 15.287: "General Conditions for Use of Alternative Systems Pursuant to 310 CMR 15.284 through 15.286"

"The following conditions shall apply to all uses of alternative systems pursuant to 310 CMR 15.284 through 15.286:

(1) All plans and specifications shall be designed in accordance with 310 CMR 15.220.

(2) Any required operation and maintenance, monitoring and testing plans shall be submitted to the Department and approved prior to initiation of the use. Monitoring and sampling shall be performed in accordance with a Department approved plan. Sample analysis shall be conducted by an independent U.S. EPA or Commonwealth of Massachusetts approved testing laboratory, or an approved independent university laboratory, unless otherwise provided in

the Department's written approval. It shall be a violation of 310 CMR 15.000 to omit from a report or falsify any data collected pursuant to an approved testing plan.

(3) The facility served by the alternative system and the system itself shall be open to inspection and sampling by the Department and the Local Approving Authority at all reasonable times.

(4) The Department and/or the Local Approving Authority may require the owner or operator of the system to cease operation of the system and/or to take any other action necessary to protect public health, safety, welfare and the environment.

(5) The owner or operator shall provide written notice to any new owner or operator that the system is an alternative system. Such notice shall include notice of the general conditions and any special conditions applicable to the system and its owner.

(6) The owner or operator, or the proponent of the alternative system, shall obtain and provide the Department with a determination from the board of certification of operators of wastewater treatment facilities established pursuant to M.G.L. c. 21, § 34A as to whether a certified operator is required for operation of the alternative system. The Department shall waive this requirement if it has on file a determination for the alternative system, and shall notify the owner, operator, or proponent of the determination.

(7) It is a violation of 310 CMR 15.000 to install, construct, or operate an alternative system except in full compliance with the written approval and 310 CMR 15.287.

(8) The Department may require the issuance of a groundwater discharge permit pursuant to 314 CMR 5.00 (groundwater discharge program) for any alternative system.

(9) The system owner shall maintain an operation and maintenance contract with a Massachusetts certified operator where one is required by 257 CMR 2.00, or otherwise with a person qualified to operate and maintain the system in accordance with the Department’s written approval.

(10) Prior to obtaining a Certificate of Compliance for installation of a new or upgraded system, the system owner shall record in the chain of title for the property served by the alternative system in the Registry of Deeds or Land Registration Office, as applicable, a Notice disclosing both the existence of the alternative on-site system and the Department’s approval of the system. The system owner shall also provide evidence of such recording to the Local Approving Authority.