Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
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PILOTING APPROVAL
Pursuant to Title 5, 310 CMR 15.000

Name and Address of Applicant:

NORWECO, Inc.
220 Republic Street
Norwalk, OH 44857

Trade name of technology and model: Hydro-Kinetic Wastewater Treatment System Model 600 FEU (hereinafter the 'System', 'Alternative System' or 'Technology').
Specifications of the System, Installation & Operation and Owner's manuals, and a technology inspection checklist are part of this Approval.

Transmittal Number:	X255606
Date of Issuance:	August 23, 2013
Date of Expiration:	August 23, 2018

Authority for Issuance

Pursuant to Title 5 of the State Environmental Code, 310 CMR 15.000, the Department of Environmental Protection hereby issues this Approval to: NORWECO, Inc., 220 Republic Street Norwalk, OH 44857 (hereinafter 'the Company'), to Pilot in the Commonwealth of Massachusetts the System described herein. Sale and use of the System are conditioned on and subject to compliance by the Company, the Designer, the Installer, the Service Contractor, and the System Owner with the terms and conditions set forth below. Any noncompliance with the terms or conditions of this Approval constitutes a violation of 310 CMR 15.000.

David Ferris, Director
Wastewater Management Program
Bureau of Resource Protection

August 23, 2013
Date

This information is available in alternate format. Call Michelle Waters-Ekanem, Diversity Director, at 617-292-5751. TDD# 1-866-539-7622 or 1-617-574-6868
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I. Purpose

1. The purpose of Piloting Approval ('the Approval') is to allow installation and use of no more than 15 on-site sewage disposal systems utilizing the Technology in Massachusetts in order to provide field testing and a technical demonstration that a particular alternative system can or cannot function effectively under relevant physical and climatological conditions (310 CMR 15.285).

2. The Approval requires that sufficient performance testing be completed so that the Department may determine if the System can or cannot consistently provide secondary treatment and function to effectively reduce total nitrogen (TN) to less than or equal to 10 mg/L or to 19 mg/L or less, and provide a level of environmental protection at least equivalent to that of a system designed and constructed in accordance with 310 CMR 15.100 through 15.293. *TN is equal to TKN (total Kjedahl Nitrogen) plus NO2 (Nitrite) plus NO3 (Nitrate).*

3. The Approval authorizes the installation and use of the System to serve a facility with design flows up to 600 gallons per day, including new construction, an increase in flow at an existing facility, or an upgrade or replacement of an existing failed or nonconforming system. The facility must meet the specific siting conditions for piloting an Alternative System (310 CMR 15. 285(2)), and the facility must meet the siting requirements of this Approval.

4. With the other applicable permits or approvals that may be required by Title 5, the Approval authorizes the installation and use of the Alternative System in Massachusetts. All the provisions of Title 5, including the General Conditions for all Alternative Systems (310 CMR 15.287), apply to the sale, design, installation, and use of the System, except those provisions that specifically have been varied by the Approval.

II. System Description

The Hydro-Kinetic 600 FEU System consists of two tanks in series installed between the building sewer and the soil absorption system (SAS) designed and constructed in accordance with 310 CMR 15.100 - 15.279.

The System uses the extended aeration and attached growth processes, as well as nitrification and denitrification processes to treat domestic wastewater for reduction of BOD, TSS and nitrogen. Treatment begins in the System's precast concrete compartmented tank which has separate pretreatment, anoxic, aeration and clarification chambers. A portion of the nitrified wastewater is returned to the anoxic chamber for denitrification- nitrogen reduction. The clarification chamber incorporates a non-mechanical demand use flow equalization device which reduces hydraulic surges within the System. Effluent from the clarification chamber is conveyed to an adjacent separate Hydro-Kinetic filter tank. The filter tank contains filter media providing attached growth for further reduction of CBOD and TSS.

Other process components supplied with the System include the A100 Air Pump for aeration, a fresh air vent for the air pump requiring installation at least six inches above grade, a SD103 Recirculation Pump and the Service Pro 801P Control Center. The 801P Control Center provides automatic operation of the System including monitoring, compliance and diagnostic functions. Any alarm conditions occurring are recorded and can be accessible to the System

owner. The Control Center includes telemetry communication capability with a remote monitoring center.

The manufacturer/Company, specifies semi-annual service inspections for the first two years of operation, however the MassDEP requires more frequent monitoring as part of this alternative technology's piloting evaluation. Pumping of the System is estimated to be required at three to five year intervals.

The approved System model and the flow rate is as follows:

- Hydro-Kinetic Model 600 FEU(concrete tanks), 0 to 600 GPD

III. Site Application, Design and Installation Requirements

1. Each proposed site-specific use of the System to be piloted must be reviewed by the Department prior to installation of the System. The Owner shall submit to the Department the written approval of the Local Approving Authority (LAA or BOH), together with a copy of the completed Department application BRP WP 64b and obtain Department written approval as required by 310 CMR 15.285(2).

2. The Designer shall be a Massachusetts Registered Professional Engineer or a Massachusetts Registered Sanitarian.

3. For new construction or increases in flow, the Alternative System may only be installed provided that:
   a) a site evaluation, in compliance with 310 CMR 15.100 through 15.107, has been approved by the Approving Authority;
   b) the Designer shows on the plans:
      i. an <u>existing</u> conforming conventional system on-site that is sized for the proposed design flow with a separate reserve area in accordance with the design standards for new construction 310 CMR 15.100 through 15.255; or
      ii. a primary area for a conventional system that could be built on-site with a separate reserve area in accordance with the design standards for new construction of 310 CMR 15.100 through 15.255; and
   c) the LAA approves the reserve area for a conventional system designed in accordance with the standards for new construction;
   d) the record drawings, on file with the LAA, clearly indicate the full-sized primary area and the full-sized reserve SAS are for the sole purpose of on-site sewage disposal system;
   e) the installation shall not disturb the site in any manner that prevents the future installation of a conventional primary SAS without encroaching on the approved conventional reserve area; and
   f) the System Owner shall not construct any permanent buildings or structures or disturb the site in any manner that prevents the future installation of a conventional primary SAS without encroaching on the approved reserve area.

4. To upgrade or replace an existing failed or nonconforming system where a conventional system <u>could be feasibly built</u> on-site, with the exception of providing a reserve area

(15.248), an Alternative System approved pursuant to 310 CMR 15.285 (Piloting) may only be installed, provided that:

a) the Designer shows on the plans the area for an approvable conventional system designed in accordance with the standards of 310 CMR 15.100 through 15.255;

b) the record drawings, on file with the LAA, clearly indicate the area for the conventional system is reserved for the sole purpose of upgrading the on-site sewage disposal system;

c) the installation of the Alternative System and any changes to the site by the System Owner shall not render the site unusable for the future installation of a conventional system; and

d) the installation of the Alternative System is in accordance with the siting requirements of the Approval.

5. To upgrade or replace an existing failed or nonconforming system, an Alternative System approved pursuant to 15.285 (piloting) may be installed where a conventional system designed in accordance with the standards of 310 CMR 15.100 through 15.255 <u>cannot be feasibly built</u> on-site, provided that:

a) there is no increase in the actual or proposed design flow;

b) the Designer demonstrates that the impact of the proposed Alternative System has been considered and the design requirements of 310 CMR 15.000 have been varied to the least degree necessary so as to allow for both the best feasible upgrade within the borders of the lot and the least effect on public health, safety, welfare and the environment;

c) the Designer shows on the plans an area for the best feasible conventional upgrade without the use of any Alternative System, in the event that the System fails or is not capable of providing equivalent environmental protection;

d) the installation of the System, including all components and the SAS system, shall not disturb the site in any manner that would render it unusable for the future installation of the best feasible conventional upgrade;

e) the record drawings, on file with the LAA, shall clearly indicate the area reserved for the best feasible conventional upgrade;

f) the System Owner shall not construct any permanent buildings or structures in an area for the best feasible conventional upgrade or disturb the site in any manner that would render the area unusable for the future installation of the best feasible conventional upgrade; and

g) the installation of the System is in accordance with the siting requirements of the Approval.

6. <u>New Construction</u>: When the System is used in areas subject to the nitrogen loading limitations of 310 CMR 15.214, an increase in calculated allowable nitrogen loading per acre is allowed for facilities with a design flow of less than 2,000 gallons per day (gpd) as provided in 310 CMR 15.217(2). When used in such areas:

a) for residential facilities, the design flow shall not exceed 660 gallons per day per acre (gpda), and the System shall not exceed 19 mg/L total nitrogen (TN) concentration in the

effluent measured as the sum of the total TKN (total Kjeldhal Nitrogen), NO3-N (Nitrate nitrogen) and NO2-N (Nitrite nitrogen), and

b) for non-residential facilities, the design flow shall not exceed 550 gpda, and the System shall not exceed 25 mg/L TN concentration in the effluent.

These limitations are based on the maximum nitrogen loading rate credit of a technology with Certification for General Use. If a System(s) needs replacement there must be an approved technology that can be installed on-site to meet the nitrogen loading limitations.

7. The System models covered by this Approval are exempt from the requirements for a standard Title 5 septic tank designed in accordance with 310 CMR 15.223 and 15.224, provided that the System is installed in accordance the Companies design and installation guidance, the approved plans, and any LAA design and installation requirements.

8. Frames and covers of all access manholes and ports of the System components shall be watertight, made of durable material, and shall be installed and maintained at grade, to allow for necessary inspection, operation, sampling and maintenance access. Manholes brought to final grade shall be secured to prevent unauthorized access. No structures which could interfere with performance, access, inspection, pumping, or repair shall be located directly upon or above the access locations.

9. For any System that does not flow by gravity to the SAS, the System shall be equipped with sensors and high-level alarms to protect against high water due to pump failure, pump control failure, loss of power, or system freeze up. The control panel including alarms and controls shall be mounted in a location always accessible to the System Operator (or Service Contractor). Emergency storage capacity for wastewater above the high level alarm shall be provided equal to the daily design flow of the System and the storage capacity shall include an additional allowance for the volume of all drainage which may flow back into the System when pumping has ceased.

   Instead of providing emergency 24-hour storage, an independent standby power source may be provided for operation during an interruption in power. With any interruption of the power supply the source must be capable of automatically activating in addition to manual start-up capability. The standby power must be sufficient to handle peak flows for at least 24 hours and sufficient to meet all power needs of the System including, but not limited to, pumping, ventilation, and controls. Standby power installations must be inspected and exercised at least annually and all automatic and manual start up controls must be tested. Standby power installations must comply with all applicable state and local code requirements. Provided that a standby power installation complies with these requirements, no variance is required to the provisions of 310 CMR 15.231(2).

10. System unit malfunction and high water alarms shall be visible and audible for facility occupants and the Service Contractor. Circuit(s) for alarms shall be connected separate from the circuits to the operating equipment and pumps.

11. All System control units, valve boxes, conveyance lines and other System appurtenances shall be designed and installed to prevent freezing per the Company's recommendations.

12. Any System structures with exterior piping connections located within 12 inches or below the Estimated Seasonal High Groundwater elevation shall have the connections made watertight with neoprene seals or equivalent.

13. In compliance with 310 CMR 15.240(13), a minimum of one (1) inspection port shall be provided within the SAS consisting of a perforated four inch pipe placed vertically down into the stone to the naturally occurring soil or sand fill below the stone. The pipe shall be capped with a screw type cap and accessible to within three inches of finish grade.

14. Upon submission of an application for a Disposal System Construction Permit (DSCP), the Designer shall provide to the LAA:
    a) if any training is required by the Company, proof that the Designer has satisfactorily completed the training for the design and installation of the Technology;
    b) certification of the design by the Company as specified in Paragraph VI.4.
    c) certification by the Designer that the design conforms to the Approval and Title 5; and
    d) a certification, signed by the Owner of record for the property to be served by the Technology, stating that the property Owner:
        i) has been provided a copy of the Approval, the Owner's Manual, and the Operation and Maintenance Manual and the Owner agrees to comply with all terms and conditions;
        ii) has been informed of all the Owner's costs associated with the operation including, when applicable: power consumption, maintenance, sampling, recordkeeping, reporting, and equipment replacement;
        iii) understands the requirement for a service contract;
        iv) agrees to fulfill his responsibilities to provide a Deed Notice as required by 310 CMR 15.287(10) and the Approval (Paragraph V.1.);
        v) agrees to fulfill his responsibilities to provide written notification of the Approval to any new Owner, as required by 310 CMR 15.287(5);
        vi) if the design does not provide for the use of garbage grinders, the restriction is understood and accepted; and
        vii) whether or not covered by a warranty, the System Owner understands the requirement to repair, replace, modify or take any other action as required by the Department or the LAA, if the Department or the LAA determines that the Alternative System is not capable of meeting the performance standards required by Title 5.

15. The System Owner and the Designer shall not submit to the LAA a DSCP application for the use of the Technology under the Approval if the Approval has expired or has been revised, reissued, suspended, or revoked by the Department prior to the date of application.

16. The System Owner shall not authorize or allow the installation of the System other than by a locally approved System Installer and, if required by the Company, has received the necessary training by the Company.

17. Prior to the commencement of construction, the System Installer must certify in writing to the Designer, the LAA, and the System Owner that (s)he is a locally approved System Installer and, if required by the Company, has received any necessary training.

18. The Installer shall maintain on-site, at all times during construction, a copy of the approved plans, the Owner's manual, the O&M manual, and a copy of the Approval.

19. Except where the Approval specifically states otherwise, the Alternative System shall be installed in a manner which does not intrude on, replace, or adversely affect the operation of any other component of the subsurface sewage disposal system.

20. Prior to the issuance of a Certificate of Compliance by the LAA, the Company or its authorized agent shall submit to the Approving Authority, with a copy to the Designer and the System Owner, a certification that the installation conforms to the Approval. The authorized agent of the Company responsible for the inspection of the installation shall have received technical training in the Company's products.

    Prior to certifying the conformance of the installation of the System, the Company shall confirm that the System Owner has recorded the required Deed Notice.

21. Prior to the issuance of a Certificate of Compliance by the LAA, the System Installer and Designer must provide, in addition to the certifications required by Title 5, certifications in writing to the LAA that the System has been constructed in compliance with the terms of the Approval.

22. 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.

    If it is feasible to connect a new or existing facility to the sewer, the Designer shall not propose an Alternative System to serve the facility and the facility Owner shall not install or use an Alternative System.

    When a sanitary sewer connection becomes feasible after an Alternative System has been installed, the System Owner shall connect the facility served by the System 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 or the LAA.

IV. Operation and Maintenance, Monitoring, and Inspection

1. The System shall be inspected, monitored, operated, and maintained by a Service Contractor under an O&M Agreement in accordance with this Approval and in accordance with any Company, Designer, or LAA requirements. The Service Contractor must be trained by the Company, must be on the Company's current list of Service Contractors, and must be certified at Grade Level IV (four) by the Board of Registration of Operators of Wastewater Treatment Facilities, in accordance with Massachusetts regulations 257 CMR 2.00.

2. As stated in 310 CMR 15. 285(3), the Company shall implement a system monitoring and reporting plan as described in this Approval, covering no less than 18 months of operation at each facility to be piloted. For all Systems installed under the Approval, the Company or its

authorized agent shall be responsible for oversight, monitoring, data collection, and submissions to the LAA (and the Department per Paragraph VI.16). [Upon the Company's completion of a System performance evaluation (PE) report finding the System in compliance with Title 5, effluent limits, and the performance goals and conditions of this Approval for at least the previous 12 months (see Paragraph VI.5), the System Owner and Service Contractor shall be responsible thereafter until the conditions of the Approval are modified, terminated, or superseded by a new Approval. The System Owner and the Service Contractor shall enter into an O&M Agreement and the Agreement shall be at least for one year.]

3. For the duration of the performance evaluation, the System Owner and the Company shall enter into an O&M Agreement. The Company shall be responsible for providing a qualified Service Contractor to service the System during this period. Prior to commencement of construction of a System installation, the Company shall provide to the LAA a copy of a signed O&M Agreement with the System Owner. For the duration of the performance evaluation, the Company shall maintain a copy of the current O&M Agreement.

4. The Company shall provide written notification to the Department within seven days of any cancellation or expiration of the O&M Agreement required for the duration of the performance evaluation.

5. At a minimum any O&M Agreement shall include the following provisions:

   a) The name of the qualified Service Contractor that appears on the Company's current list of Service Contractors;

   b) In the case of a System failure, equipment failure, alarm event, components not functioning as designed, or violations of the Approval, procedures and responsibilities of the Company, the Service Contractor, and the System Owner shall be clearly defined for corrective measures to be taken immediately;

   c) The Service Contractor shall agree to provide written notification within five days, describing corrective measures taken, to the System Owner, the local board of health, and the Company; and

   d) Procedures and responsibilities for recording wastewater flows and power consumption during the performance evaluation must be defined. If direct metering of power consumption is not feasible, equipment run times shall be recorded in order for the Company to provide recorded estimates of power consumption of the facility.

6. The System Owner and the Service Contractor shall maintain on-site, at all times, a copy of the approved plans, the Owner's Manual, the O&M Manual, a copy of the Approval, and a copy of the current O&M Agreement.

7. The System Owner and the Service Contractor shall provide written notification to the LAA within seven days of any cancellation, expiration or other change in the terms and/or conditions of the required O&M Agreement.

8. At a minimum, the Service Contractor shall inspect, properly operate, and properly maintain the System:

   a) any time there is System failure, equipment failure, or an alarm event;

   b) in accordance with the O&M manual and Designer requirements;

c) in accordance with the requirements of the LAA;

d) in accordance with the Approval; and

e) for seasonal use, the Service Contractor shall be on-site and responsible for the proper start-up and shut down of the Alternative System.

9. Each time a Pilot Alternative System is visited by a Service Contractor the following shall be recorded, at a minimum:

a) date, time, air temperature, and weather conditions;

b) observations for objectionable odors;

c) observations for signs of breakout of sanitary sewage in the vicinity of the Alternative System, which indicate a failure of the Alternative System;

d) identification of any apparent violations of the Approval;

e) since the last inspection, whether the system had been pumped with date(s) and volume(s) pumped;

f) sludge depth and scum layer thickness, if measured;

g) when responding to alarm events, the cause of the alarm and any remedial steps taken to address the alarm and to prevent or reduce the likelihood of future similar alarm events;

h) field testing results, if any;

i) list of samples taken for laboratory analysis, if any;

j) any cleaning and lubrication performed;

k) any adjustments of control settings, as recommended or deemed necessary;

l) any testing of pumps, switches, alarms, as recommended or deemed necessary;

m) identification of any equipment failure or components not functioning as designed;

n) parts replacements and reason for replacement, whether routine or for repair; and

o) further corrective actions recommended, if any.

10. Flow Metering – For Alternative Systems installed under Piloting Approval, wastewater flow data shall be reported each time the System is inspected and/or sampled by the Service Contractor. At a minimum, wastewater flow shall be based on:

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

b) actual water meter data for the total facility with either metered or estimated flows for non-wastewater flow subtracted from the total facility water usage. If estimating the wastewater flow as a portion of total metered water usage, the Service Contractor shall provide the method of estimating, such as pump run times, occupancy rates, adjusting for seasonal outdoor water use, etc.

11. For the duration of the performance evaluation (or PE), the required O&M Agreement shall include the following monitoring schedule at a minimum (subject to modifications that may be required by Paragraphs IV.12, 13 and 15):

Parameter	Monitoring Frequency	Sample Type	Location	Effluent Limits
wastewater temperature	each inspection	Measure	effluent to SAS	Measure and record
flow	each inspection	Measure	See Paragraph IV.10	Measure and record
pH	See frequency specified below	Grab	effluent to SAS	6 to 9
Total Nitrogen	See frequency specified below	Grab	effluent to SAS	See Paragraph III.6
BOD_5	See frequency specified below	Grab	effluent to SAS	30 mg/l
TSS	See frequency specified below	Grab	effluent to SAS	30 mg/l
turbidity	See frequency specified below	Measure	effluent to SAS	≤ 40 NTU
settleable solids	See frequency specified below	Measure	effluent to SAS	Measure and record ml/l only
color	See frequency specified below	visual observation	effluent to SAS	Record observation only
Depth of Ponding Within SAS	once every year	Measure	Inspection port to bottom of SAS	See Paragraph IV.15(d)
Thickness of floating grease/scum layer	Once every 3 years	Measure	Process tank and chamber(s) where solids are retained	Pump out, as necessary
Depth of Sludge and distance to effluent tee/filter/outlet	Once every 3 years	Measure	Process tank and chamber(s) where solids are retained	Pump out, as necessary

System Monitoring Responsibility

12. For at least the first 18 months of operation and until a System's Performance Evaluation (PE) has been completed by the Company, the Company shall be responsible for the following minimum monitoring requirements and effluent limits, as well as those required in paragraph 11 above:

    a) For year-round properties the facility shall be inspected quarterly. The effluent shall be monitored quarterly for at least 6 quarters for pH, BOD5, TSS and total nitrogen (TN). After at least 6 quarterly samples, the effluent shall be sampled quarterly for TN and field tested for pH, turbidity, settleable solids and color. Non-residential facilities shall also monitor influent quarterly for wastewater temperature, pH, BOD_5, TSS and TN for a minimum of 4 quarters; and

    b) Seasonal properties shall be inspected and the effluent sampled at least twice per year, once 30 to 60 days after occupancy and the second sample must be taken no less than 2 months after the first sample or just prior to the seasonal end-of-use. Samples shall be analyzed for pH, BOD_5, TSS and TN. After 6 samples, the effluent shall be analyzed for just TN and field tested for pH, turbidity, settleable solids, and color. During occupancy, the influent for nonresidential facilities shall be monitored once per quarter for pH, BOD_5, TSS and TN for a minimum of 4 quarters.

    Quarterly monitoring shall be performed not less than 2 months since the last monitoring inspection and not more than 4 months since the last inspection.

13. After a minimum of 18 months and completion of the PE of a System that shows the System was in compliance with Title 5, effluent limits, and the performance goals and conditions of this Approval for at least the previous 12 months, the System Owner and the Service Contractor shall be responsible for the following monitoring requirements:

    a) For Systems designed to receive or receiving more than 440 gallons per day per acre that were installed to serve new construction or an increase in flow in an area subject to the Nitrogen Loading Limitations of 310 CMR 15.214 and subject to a total nitrogen concentration limit, the following applies until the Approval is modified, terminated, or superseded:

        i. Year-round properties shall be inspected when sampled and effluent samples shall be taken twice per year at least 5 months apart and analyzed for TN. At least one sample will be taken between December 1 and March 1 of each year.

        ii. Seasonal properties shall be inspected when sampled and effluent samples shall be taken for TN a minimum of twice per 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 or just prior to the seasonal end-of-use.

    The monitoring requirements in Paragraph 12 also apply, unless modified by 13(a, i-ii). (*Note: The LAA (or BOH) may have additional monitoring requirements.*)

    b) For those Systems not subject to the Nitrogen Loading Limitations of 310 CMR 15.214, only the monitoring requirements of the LAA (or BOH) applies.

14. Within 60 days of each site visit, all monitoring data shall be submitted to the System Owner and the LAA with the O&M report and inspection checklist. The O&M report and inspection checklist shall include, at a minimum, results of any required wastewater analyses, flow data and all the information required to be recorded for a maintenance inspection of an Alternative System.

Compliance Requirements

15. The System shall be subject to the following performance requirements:
    a) For areas subject to the Nitrogen Loading Limitations of 310 CMR 15.214, whenever two consecutive monitoring rounds exceed the required TN limit, a written evaluation with recommendations for changes in the design, operation, and/or maintenance of the System shall be submitted to the LAA, within 90 days of the second exceedance of the limit. The written evaluation with recommendations shall be prepared by the Service Contractor or a qualified Designer and the submission shall include all monitoring data, inspection reports, and laboratory analyses since the last annual report to the LAA;
    b) whenever field testing indicates a pH outside the of 6 to 9 or an exceedance of the turbidity limit of 40 NTU, the Service Contractor shall collect an effluent sample from the treatment unit for laboratory analysis for BOD_5 and TSS, and make any adjustments and/or repairs to the System deemed necessary during the inspection;
    c) whenever two consecutive monitoring rounds include at least one exceedance of the limits for BOD_5 or TSS, a written evaluation with recommendations for changes in the design, operation, and/or maintenance of the System shall be submitted to the LAA, within 90 days of the second exceedance of the limits The written evaluation with recommendations shall be prepared by the Service Contractor or a qualified Designer and the submission shall include all monitoring data, inspection reports, and laboratory analyses since the last annual report to the LAA;
    d) whenever an SAS inspection port measurement indicates the ponding level within the SAS is above the invert of the distribution system, an additional measurement shall be made 30 days later. If the subsequent reading indicates the elevation of ponding within the SAS is above the invert of the distribution system, within 60 days of the follow up inspection, a written evaluation with recommendations for changes in the design, operation, and/or maintenance of the System shall be submitted to the LAA. The written evaluation with recommendations shall be prepared by the Service Contractor or a Designer and the submission shall include all monitoring data, inspection reports, and laboratory analyses for the previous year; and
    e) recommendations for any changes to the System shall be implemented, as approved by the LAA, in accordance with an approved schedule, provided that all corrective measures are implemented consistent with the limitations described in Paragraph V.8.

    Responsibility for completing these compliance requirements is same as is assigned in the above Paragraphs 12 and 13 for monitoring requirements.

16. For Systems failing to comply with any other terms of the Approval not included in Paragraph 15, and until the Company submits a Performance Evaluation report to the System Owner and the LAA showing the System was in compliance with Title 5, effluent limits, and the performance goals and conditions of this Approval for at least the previous 12 months, the Company or its authorized agent shall determine the cause(s) of the noncompliance. The Company shall provide written recommendations for corrective actions to the System Owner and the LAA. Corrective actions may include but are not limited to design changes, installation changes, operation or maintenance changes including sampling modifications, and/or changes in roles and responsibilities for the manufacturer, vendors, designers, installers, service contractors and owners. Any recommended changes which are not consistent with this Approval shall first be submitted to the Department with an application for an Approval modification.

The Company shall be responsible for implementation of recommended changes, as approved by the LAA, in accordance with an approved schedule. All corrective measures implemented shall be consistent with the Approval and the other limitations described in Paragraph V.8.

17. Unless directed by the LAA to take other action, the System Owner shall immediately cease discharges or have wastewater hauled off-site, if at any time during the operation of the Alternative System the system is in failure as described in 310 CMR 15.303(1)(a)1 or 2, backing up into facilities or breaking out to the surface.

V. Additional System Owner and Service Contractor Requirements

1. Prior to issuance of a Certificate of Compliance for a System installation, the System Owner shall record and/or register the Deed Notice required by 310 CMR 15.287(10), and provide a copy to the LAA. The Deed Notice shall be completed as follows:

   a) a certified Registry copy of the Deed Notice bearing the book and page/or document number; and

   b) if the property is unregistered land, a copy of the System Owner's deed to the property as recorded at the Registry, 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 (see *http://www.mass.gov/dep/water/wastewater/altsysn.pdf*).

2. 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, as required by 310 CMR 15.287(5) 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 LAA within 10 days of giving such notice to the transferee(s).

3. The System Owner shall provide access to the site for the Company and the Service Contractor to perform inspections, maintenance, repairs, responding to alarm events and field testing as may be required by the Approval, including sampling the System in accordance with the Approval.

4. The System Owner and the Service Contractor shall maintain copies of the Service Contractor's O&M reports, inspection checklists, and all reports and notifications to the LAA for a minimum of three years.

5. The System Owner shall not install, modify, upgrade, or replace the System except in accordance with a valid DSCP issued by the LAA which covers the proposed work.

6. Upon determining that the System is in violation of the Approval or the System has failed, as defined in 310 CMR 15.303, the Service Contractor shall notify the System Owner immediately.

7. Upon determining that the System has failed, as defined in 310 CMR 15.303, the System Owner and the Service Contractor shall be responsible for the notification of the LAA within 24 hours of such determination.

8. In the case of a System failure, an equipment failure, alarm event, components not functioning as designed, components not functioning in accordance with manufacturer's specifications, or violations of the Approval, the Service Contractor shall provide written notification within five days describing corrective measures to the System Owner, the local board of health, and the Company and may only propose or take corrective measures provided that:

   a) all emergency repairs, including pumping, shall be in accordance with the limitations and permitting requirements of 310 CMR 15.353;

   b) the design of any repairs or upgrades are consistent with the Alternative System Approval;

   c) the design of any repairs or upgrades requiring a DSCP shall be performed by an individual meeting the qualifications of Paragraph III.2;

   d) the installation shall be done by an Installer with a currently valid Disposal System Installers Permit (310 CMR 15.019) and the Installer shall also comply with Paragraph III.17.

   The System Owner shall also be responsible for ensuring written notification is provided within five days to the local Board of Health.

9. The Service Contractor shall provide written notification to the Company within seven days of any cancellation, expiration or other change in the terms and/or conditions of a required O&M Agreement.

10. By September 30th of each year, the System Owner and the Service Contractor shall be responsible for submitting to the LAA all O&M reports, all monitoring results, and inspection checklists completed by the Service Contractor during the previous 12 months.

11. By September 30th of each year, the Service Contractor shall be responsible for submitting to the Company copies of all O&M reports including alarm event responses, all monitoring results, violations of the Approval, inspection checklists completed by the Service Contractor, notifications of system failures, and reports of equipment replacements with reasons during the previous 12 months.

12. The Service Contractor shall notify the System Owner of any changes to the terms and conditions of the Approval within 30 days of any changes.

13. Within one year of any changes to the terms and conditions of the Approval, the System Owner shall amend, as necessary, the O&M Agreement required by Paragraphs IV.2 & 3 to reflect the changes to the terms and conditions of the Approval.

14. 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.

15. The Approval shall be binding on the System Owner and on its agents, contractors, successors, and assigns, including but not limited to the Designer, Installer, and Service Contractor. Violation of the terms and conditions of the Approval by any of the foregoing persons or entities, respectively, shall constitute violation of the Approval by the System Owner unless the Department determines otherwise.

16. If the Company wishes to continue this Piloting Approval after its expiration date, the Company shall apply for and obtain a renewal of this Approval. The Company shall submit a renewal application at least 180 days before the expiration date of

this Approval, unless permission for a later date has been granted in writing by the Department.

VI. Company Requirements

1. The Approval shall only apply to the model unit(s) with the same model designations specified in the Technology's Pilot Approval and meet the same specifications, operating requirements and plans as provided by the Company at the time of the application. Any proposed modifications to the units, installation requirements, or operating requirements shall be subject to the review of the Department for inclusion under a modification of the Approval. The Company shall be responsible for verification of the appropriate model unit as part of the review of proposed installations under the Approval.

2. The Company must offer to the System Owner a two-year initial service policy with the purchase of the Technology that includes eight (8) site visits (every 3 months). The Company must make available, for a fee, an extended service policy for a minimum of 5 years beyond the two-year initial service policy.

3. Prior to submission of an application for a DSCP, the Company shall provide to the Designer and the System Owner:
   a) all design and installation specifications and requirements;
   b) an operation and maintenance manual, including:
      i. an inspection checklist;
      ii. recommended inspection and maintenance schedule;
      iii. monitoring (i.e. water use and power consumption) and sampling procedures, if any;
      iv. alarm response procedures, if any, and troubleshooting procedures;
   c) an owner's manual, including proper system use and alarm response procedures, if any;
   d) estimates of the Owner's costs associated with System operation including, when applicable: power consumption, maintenance, sampling, recordkeeping, reporting, and equipment replacement;
   e) a copy of the Company's warranty, and
   f) lists of Designers, Installers, and Service Contractors.

4. 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 the 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.

5. Upon completion of the Performance Evaluation (PE) of a System after a minimum of 18 months of operation, the Company shall submit to the System Owner and the LAA a PE report on the System describing and summarizing the operations of the System, any changes

in operation or design that were made during the piloting performance evaluation period and the results of the piloting program for that System. The report shall also include whether the System was in compliance with Title 5, the effluent limits, and the performance goals and conditions of this Approval for at least the previous 12 months of operation. That report shall also include either recommendations for approving and ending the piloting program for that System or recommendations for continuing piloting for any System that has not performed as planned and/or required.

a. Upon completion of the PE of a System, if a System is not in compliance with Title 5 or this Approval for at least the previous 12 months of operation, the Company shall either continue the piloting program for that system, or upgrade or replace the System with a fully complying Title 5 I/A or conventional system.

b. Upon completion of the PE of a System, showing the System was in compliance, for at least the previous 12 months with Title 5, the effluent limits, the performance goals, and the conditions of this Approval, the Company may turn the responsibility for operation and monitoring of the System over to the System Owner and Service Contractor in accordance with this Approval (see paragraph IV.13 for continuing monitoring requirements).

6. The Company shall institute programs of training and continuing education for Service Contractors. Training shall be provided at least annually. If the Company requires trained Designers and Installers, the Company shall institute programs of training and continuing education that is separate from or combined with the training for Service Contractors. The Company shall maintain, annually update, and make available by March 15th of each year, lists of approved Service Contractors and, if training is required, Designers and Installers. The Company shall certify that the Service Contractors and Designers and Installers on the lists have taken the appropriate training and passed the Company's training qualifications. The Company shall further certify that the Service Contractors on the list have submitted to the Company all the reports required by Paragraphs V.8, 9, and 11.

   The Company shall not re-certify a Service Contractor if the Service Contractor has not complied with the reporting requirements for the previous year.

7. If Installer training is required by the Company, the Company shall not sell the Technology to an Installer unless the Installer is trained. The Company shall also require, by contract, the distributors and resellers of the Technology shall not sell the Technology to an Installer unless the Installer is trained.

8. As part of any training programs for Designers, Installers, and Service Contractors, the Company shall provide each trainee with a copy of the Approval with the design, installation, O&M, and owner's manuals that were submitted as part of the Approval.

9. The Company shall provide, in printed or electronic format, the System design plan, installation, O&M, and Owner's manuals, and any updates associated with this technology Approval, to the System Owners, Designers, Installers, Service Contractors, vendors, resellers, and distributors of the System. The Company shall submit to the Department a copy of any proposed changes to the manual(s) with reasons for each change at time of

issuance. The Company shall request Department approval for any substantive changes which may require a modification of the Approval.

10. Prior to its sale of any System that may be used in Massachusetts, the Company shall provide the purchaser with a copy of the Approval with the System design, installation, O&M, and Owner's manuals. In any contract for distribution or sale of the System, the Company shall require the distributor or seller to provide the purchaser of a System for use in Massachusetts with copies of these documents, prior to any sale of the System.

11. 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.

12. Within 60 days of issuance by the Department of a revised Approval, the Company shall provide written notification of changes to the Approval to all Service Contractors servicing existing installations of the Technology and all distributors and resellers of the Technology.

13. The Company shall provide written notification to 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.

14. The Company shall maintain records of:
    a) the Approval;
    b) design and installation manuals;
    c) an owner's manual, including alarm response procedures, if any;
    d) an operation and maintenance manual, including:
        i. an inspection checklist;
        ii. recommended inspection and maintenance schedule;
        iii. monitoring requirements, if any (including water use and power consumption when required) and sampling procedures, and
        iv. alarm response procedures, if any, and troubleshooting procedures.
    e) estimates of the operating costs provided to the Owner, including, when applicable: power consumption, maintenance, sampling, recordkeeping, reporting, and equipment replacement;
    f) a copy of the Company's warranty, and
    g) lists of Designers, Installers, and trained Service Contractors.

15. The Company shall maintain the following information for the Systems installed in Massachusetts:
    a) the address of each facility where the Technology was installed, the Owner's name and address (if different), the type of use (e.g. residential, commercial, institutional, etc.), the design flow, the model installed;
    b) the installation date, start-up date, current operational status;
    c) the name of the Service Contractor, noting any cancellations or changes to any Service Contracts;

d) a summary of system failures, system malfunctions, and violations of the Approval with the date of each event and corrective actions taken to reach compliance, including but not limited to: design changes; installation changes; operation/maintenance changes; monitoring changes; and/or changes in roles and responsibilities for the manufacturer, vendors, designers, installers, service contractors and owners;
e) copies of all Service Contractor records submitted to the Company, including all O&M reports with alarm event responses, all monitoring results, inspection checklists completed by the Service Contractor, notifications of system failures, and reports of equipment replacements with reasons; and
f) copies of any completed PE reports.

16. By March 15th of each year the Company shall submit to the Department an annual report that contains the following information for all Systems installed prior to January 1st of that year:
    a) a table of the information required by Sections a, b, c, d and f of the preceding Paragraph;
    b) a table of monitoring data collected for all Systems installed to-date;
    c) a list of pending applications for System installations which have been submitted to local approving authorities.
    d) identification of each System failure to comply with any performance criteria of the Approval or the system monitoring and reporting plan, including but not limited to, effluent quality limits. Include the date of each event, the date that the System was returned to compliance, and the reasons for the noncompliance and the corrective actions that were taken, including but not limited to any design changes, installation changes, operation or maintenance changes including sampling, and/or changes in roles and responsibilities for the manufacturer, vendors, designers, installers, service contractors and owners;
    e) for any System in violation of the Approval or not in compliance with any performance criteria at the time of the annual report, the reasons for the noncompliance and the status of any corrective actions that are needed;
    f) any recommendations and requests for changes to the system monitoring and reporting plan or the performance criteria of the Approval; and

    The report shall be signed by a corporate officer, general partner or the Company owner.

    (*Service Contractor records submitted to the Company should not be included with the annual report, but shall be made available to the Department within 30 days of a request by the Department.*)

17. The Approval shall be binding on the Company and its officers, employees, agents, contractors, successors, and assigns, including but not limited to dealers, distributors, and resellers. Violation of the terms and conditions of the Approval by any of the foregoing persons or entities, respectively, shall constitute violation of the Approval by the Company unless the Department determines otherwise.

VII. General Requirements

1. Any Alternative System for which a complete DSCP application is submitted while the Approval is in effect, may be permitted, installed, and used in accordance with the Approval, unless and until:

   a) the Department issues modifications or amendments to the Approval which specifically affect the installation or use of an Alternative System installed under the Approval for the Technology; or

   b) the Department, the local approval authority, or a court requires the Alternative System to be modified or removed or requires discharges to the System to cease.

2. 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

3. The Department may suspend, modify or revoke the Approval for cause, including, but not limited to, non-compliance with the terms of the Approval, non-payment of the 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 the System against the Company, a System Owner, a Designer, an Installer, and/or Service Contractor.