



**COLORADO**  
Department of Public  
Health & Environment

Dedicated to protecting and improving the health and environment of the people of Colorado

November 20, 2015

Joshua Meyer, CEO  
PekaSys, Inc.  
486 Lewisberry Rd.  
New Cumberland, PA 17070

Subject: PekaSys, Proprietary Treatment Product - TL2 Acceptance  
For Use in Colorado On-site Wastewater Treatment Systems

Dear Mr. Meyer:

Pursuant to section 43.13 of the On-site Wastewater Treatment System Regulation 5 CCR 1002-43 (Regulation 43), the Water Quality Control Division (Division) has reviewed drawings and specifications received August 4, 2015, and September 2, 2015, for the PekaSys proprietary treatment technology products noted below.

The PekaSys treatment technology noted below was previously accepted by the Division on May 2, 2012, for use as a component of an on-site wastewater treatment system (OWTS) through NSF Standard 40 under the previous state regulation. Section 43.13(D)(3)(j) of the recently adopted Regulation 43 states:

*"If a proprietary product has been accepted for use in Colorado under NSF/ANSI 40 or equivalent testing and at least one product unit has been installed in Colorado prior to the effective date of this regulation, the acceptance for use in Colorado may continue as treatment level 2".*

Based on the information that has been provided, the PekaSys treatment products noted below comply with this requirement and are accepted as a higher level treatment system for use as a component of an OWTS subject to the design criteria in Table 1 below. This acceptance is not intended as an endorsement or third-party certification of the technology.

This acceptance addresses the following models:

- PSB1-4, at treatment level TL2 for flows up to 400 gpd.
- PSB1-5, at treatment level TL2 for flows up to 500 gpd.
- PSB1-6, at treatment level TL2 for flows up to 600 gpd.
- PSB1-7, at treatment level TL2 for flows up to 700 gpd.
- PSB1-8, at treatment level TL2 for flows up to 800 gpd.
- PSB2-9, at treatment level TL2 for flows up to 900 gpd.
- PSB2-10, at treatment level TL2 for flows up to 1000 gpd.
- PSB2-11, at treatment level TL2 for flows up to 1100 gpd.
- PSB2-12, at treatment level TL2 for flows up to 1200 gpd.
- PSB2-13, at treatment level TL2 for flows up to 1300 gpd.
- PSB2-14, at treatment level TL2 for flows up to 1400 gpd.
- PSB2-15, at treatment level TL2 for flows up to 1500 gpd.
- PSB3-1750, at treatment level TL2 for flows up to 1750 gpd.
- PSB3-2000, at treatment level TL2 for flows up to 2000 gpd.



This acceptance applies only to OWTS with design capacity up to 2,000 gallons per day (gpd). **Review and approval for the design of any OWTS proposing to use this technology will be reviewed by the local public health agency.** As individual local public health agency regulations may be more stringent than Regulation 43, the Division cannot ensure the acceptance of a treatment technology within any given jurisdiction.

Any modifications to the physical attributes or characteristics of this treatment technology must be submitted to this office for review and acceptance by the Division prior to sale in Colorado. The Division will review modifications, any additional third party verification reports and issue a revised acceptance letter, or denial, as appropriate.

**Table 1. Design Criteria for PekaSys, Inc. models listed above:**

Design Criteria
<ol style="list-style-type: none"><li>1. The PekaSys wastewater treatment system is intended to be sold as a complete unit. The design of the treatment tank and all accessory components (pumps, control panel, etc.) shall conform to manufacturer specifications specific to the proposed daily flows and waste strength to be treated.</li><li>2. A septic tank consistent with section 43.9(A) and 43.9(B) and installation of an effluent screen consistent with section 43.3(44) and 43.9(I) must precede the PekaSys treatment unit. Pretreatment for non-residential kitchens must include adequate separate grease separator tank(s) prior to the primary septic tank(s) as required in section 43.9(J) of Regulation 43.</li><li>3. Sludge management of the PekaSys is critical as its effectiveness relies on having the proper amount of sludge in the reactor tank. The amount of sludge depends on the load coming in to the tank. The initial settling tank must be pumped when 50% of that tank is filled with sludge and scum. The reactor side of the tank pumps sludge back to the settling tank as part of the normal treatment process. This tank should never be pumped unless specified by a trained service provider.</li><li>4. As per recommendation of the manufacturer, water softener discharge should not enter the tank as it will affect the bacterial activity within the system.</li><li>5. A properly sized blower must be installed based on the model of the system:<ol style="list-style-type: none"><li>a. The PSB1 series is designed with a NOVAIR 200 blower.</li><li>b. The PSB2 series is designed with a NOVAIR 600 blower.</li><li>c. The PSB3 series is designed with two (2) NOVAIR 600 blowers.</li></ol></li><li>6. The PekaSys control panel and accessory components are designed specifically for the PekaSys treatment system and must be installed as an integral part of the system. The control panel provides for specific aerobic and anaerobic cycles dependant on flow into the tank. These cycles can be increased or decreased by the service provider as the overall load changes.</li><li>7. Design flow shall be for maximum occupancy. Design flow for single-family residential designs may vary based on the regulations adopted by the local board of health for the design location. Design flow values and strengths for multi-family and commercial systems shall be consistent with section 43.6(A)(4). Therefore, all design criteria in this acceptance are based on total gallons per day and the assumption of residential strength wastewater.</li><li>8. The design must include pressure dosed distribution of effluent to the soil treatment area. Reductions in soil treatment area size or separation distances shall be as described in section 43.10(C)(4) of Regulation 43.</li></ol>

9. The designated higher level treatment rating is identified for each model on page 1. Use in higher level treatment applications requires system be designed by a Colorado Licensed Professional Engineer. The accepted treatment product may also be used for applications requiring less than the approved treatment level of the product.
10. Reductions in soil treatment area size or separation distances based on higher level treatment may not be applied unless the local public health agency has a maintenance oversight program in place as described in section 43.14.D of Regulation 43. In locations where the local public health agency has not adopted a maintenance oversight program, the treatment system may be installed but only with soil treatment area and separation distances consistent with treatment level TL1 requirements.
11. In addition to these design criteria, other provisions of Regulation 43 and local regulations also apply to a specific design as well as good OWTS design practice. The Division does not approve manufacturer design manuals. Manufacturer provisions shall not be applicable if those provisions are not consistent with Regulation 43, these design criteria, and the regulations adopted by the local board of health for the design location. Local public health agencies will review proposed designs to confirm consistency with Regulation 43, these design criteria, the local board of health regulations adopted pursuant to Regulation 43, and good OWTS design practice.
12. Monitoring of the system may be required by the regulations adopted by the local board of health.
13. The treatment technology is not intended for industrial sources of wastewater. The treatment technology is intended to receive domestic wastewater with TL1 concentrations (see Table 6-3 in Regulation 43) exiting the septic tank. Wastewater with higher concentrations of biochemical oxygen demand (BOD); total suspended solids (TSS); or fats, oils, and grease (FOG) will require verification of ability to treat wastewater and appropriate modifications or pretreatment.
14. Design shall provide access for maintenance and repair. Septic tanks and all treatment components, other than the soil treatment area, shall be equipped with access manholes and risers that extend to or above final grade. Risers and lids shall be watertight and secure.

#### Additional Operation and Maintenance Criteria

1. Design shall include an Operation and Maintenance (O&M) Manual to be provided for all installations. Individual operation plans shall include scheduled inspections, assessments, and maintenance of the treatment unit. This plan for scheduled inspections and assessments should include a routine inspection as described in section 43.14(D)(4)(b) of Regulation 43.

The owner of the OWTS is responsible for arranging proper design, operation, and maintenance of the facility to achieve the desired treatment level.

If you have any questions regarding the Division's review or findings, please contact me at (303) 692-2366 or [chuck.cousino@state.co.us](mailto:chuck.cousino@state.co.us).

Sincerely,

Charles J. Cousino, REHS  
On-site Wastewater Treatment System Coordinator  
Engineering Section  
Water Quality Control Division  
Colorado Department of Public Health and Environment