

Mission:

To protect, promote & improve the health of all people in Florida through integrated state, county & community efforts.



Rick Scott
Governor

Celeste Philip, MD, MPH
Surgeon General and Secretary

Vision: To be the Healthiest State in the Nation

January 13, 2017

Certified Mail: 7004 0750 0004 3693 3524

Mr. Bennette D. Burks, P.E.
3-Engineering, LLC
1518 Willow Lawn Drive, Suite 300
Henrico, Virginia 23230

Dear Mr. Burks:

This letter responds to your ~~revised~~ request of ~~February 14~~ November 16, 2016, to revise the for an innovative system permit for Fuji Clean USA, LLC (Fuji Clean) treatment systems of the CE and CEN series with an additional Salcor 3G ultraviolet (UV) disinfection unit. ~~You provided additional information since then.~~ Several models of these series (CE5, CE7, CE10, CE14, CEN5, CEN7, CEN10) are currently listed by NSF International as meeting the requirements of NSF/ANSI Standard 40. The Department has approved treatment receptacles for these models, and considers them aerobic treatment units according to Rule 64E-6.012, of the Florida Administrative Code (FAC). The objective of the revision is to clarify that CEN-series models evaluated for nitrogen reduction do not necessarily need to include the ultraviolet light disinfection unit. Your request has been reviewed and approved with conditions. Changes from the previous version (1.0) are marked in strike/underline format.

A. Limitations:

- a. This innovative system permit will expire five years after it is issued unless Fuji Clean USA previously applies for reclassification or requests an extension in writing at least three months prior to expiration.
- b. The innovative system permit has two independent objectives:
 - i. to evaluate the performance of the Salcor 3G ultraviolet light disinfection unit when used in conjunction with Fuji Clean CE- or CEN-series as expressed by the number of fecal coliform colony forming units per 100 milliliters (CFU/100 mL)
 - ii. to evaluate the performance of Fuji Clean CEN series for nitrogen reduction and to evaluate if the series meets advanced secondary treatment standards.
- c. This innovative system permit allows the installation of up to ten innovative systems of the CEN-series for nitrogen reduction, and up to twenty innovative systems including the disinfection unit, ten each of the CE- and CEN-series, upon approval of site-specific construction applications by the respective County Health Department and this office. Some CEN-series systems may be counted in both groups.
- d. Systems installed under this innovative permit shall serve preferentially the whole sewage of single family residences. Installation of systems serving non-residential establishments generating domestic sewage waste with an estimated sewage flow of at least 200 gpd are permissible with the concurrence by you and Fuji Clean. Laundry and gray water systems, multi-family residences, and establishments generating commercial sewage waste (food operations, commercial laundry facilities, and animal holding facilities) may be installed under this

innovative system permit with the concurrence of you and Fuji Clean, but will be evaluated separately, and the number of systems evaluated under this innovative system permit will be increased correspondingly. However, the total number of systems serving establishments other than single-family residences shall not exceed the number of systems serving single-family residences.

- e. Application for reclassification of the Salcor 3G UV treatment system component in conjunction with CE or CEN models according to 64E-6.0295, FAC, shall include monitoring observations and sampling results from four repeated samples at quarterly intervals from the ten CE and CEN systems each.
- f. Application for reclassification of the CEN model series according to 64E-6.0295, FAC, shall include monitoring observations and sampling results from four repeated samples at quarterly intervals from the ten CEN systems.
- g. All systems will be designed, constructed, and installed as innovative performance-based treatment systems in accordance with this permit, Chapter 64E-6, FAC, "Standards for Onsite Sewage Treatment and Disposal Systems", and Fuji Clean's Contractor Installation Manual for Fuji Clean, April 2015, with Florida Installation Notes, and Salcor, Inc.'s Installation, Operation and Maintenance Manual for the UV disinfection unit, Model 3G, November 2015." as appropriate for each installation.
- h. This permit (version 1.0₁) can be amended as necessary to address the experiences and new information in the field during the innovative system-testing period.

B. System components:

- a. A Fuji Clean treatment system. For estimated sewage flows of 1500 gallons per day or less, this treatment system will be certified as complying with standard NSF-40. For nitrogen evaluation, the treatment system will be one of the CEN-series. For ultraviolet disinfection evaluation, the treatment system will be one of either the CE- or the CEN-series. The tanks housing the treatment systems shall be approved treatment receptacles in Florida.
- b. When Fer ultraviolet disinfection is selected for disinfection, a Salcor 3G assembly, as described by Salcor, Inc.'s owner and installation manual, November 2015. The Salcor 3G unit can be installed in the effluent line between treatment tank and disposal location or in the inlet to a dosing tank after the treatment tank.
- c. A sampling port between the last treatment step and the drainfield.
- d. The installations will include the monitoring and alarm devices that are required for the ANSI/NSF-40 certified Fuji Clean treatment units, and the alarm board for the Salcor 3G unit.
- e. Installations monitored for treatment performance under this permit shall include a method for monitoring flow through the system in accordance with rule 64E-6.026(2)(a), FAC.

C. Construction Permitting:

- a. Engineers licensed in the State of Florida shall design, sign and seal site-specific system construction permit applications in accordance with rule 64E-6.026(2), FAC. If the application is for a site where no previous system existed, it will be considered a new construction permit application. For sites with a pre-existing system, new, modification or repair permit applications can be considered. The application shall be submitted to the county health department responsible for each site. If you are not the engineer of record, the application shall document that you as QA/QC-officer approve of the site selection and design specifications. The application shall include an empty form DH3145 and a completed form DH3144 (see attachment I). The County Health Department shall review the application for compliance with regulations and shall forward DH3145 to this office for approval of the innovative system construction permit together with any questions that may arise for clarification.
- b. Specified performance level per rule 64E-6.026(2)(a), FAC, may be baseline treatment, and can include secondary treatment levels for cBOD₅, TSS and fecal coliform for the CE- and CEN-

series, and advanced secondary treatment levels for cBOD5, TSS, TN, TP, and fecal coliform for the CEN-series. Data submitted for the application showed the following results for the components of the innovative system:

Component	Fuji Clean CE series		
Test	NSF-40 Waco December 30, 2013-July 25, 2014		
	Influent average	Effluent average (max 7-day, max 30-day)	
cBOD5 (mg/L)	150 (BOD5)	11 (7-day: 26; 30-day: 15)	
TSS (mg/L)	260	13 (7-day: 38; 30-day: 24)	
Component	Fuji Clean CEN series		
Test	NSF-40/245 Waco June 8, 2014-December 5, 2014		
	Influent average	Effluent average (max 7-day, max 30-day)	Percent Reduction (%)
cBOD5 (mg/L)	190 (BOD5)	5 (7-day: 12; 30-day: 9)	n/d
TSS (mg/L)	300	6 (7-day: 14; 30-day: 10)	n/d
TN (mg/L)	40	10 (TKN 4.7; NOx 5.7)	74
Optional Component	Salcor 3G following Fuji Clean CEN series (27-39 g/p/m)		
Test	NSF-40/245 Waco June 8, 2014-December 5, 2014		
	Influent geometric mean (min to max 30-day)	Effluent geometric mean overall (min to max 30-day)	
Fecal coliform (CFU/100 mL)	(2.0E+6 to 1.2E+9)	70 (6 to 183)	

- c. A construction inspection by the Department shall occur after installation of the system and before covering.
- d. The as-built documents provided by the engineer of record to the Department shall include the model numbers for the Fuji Clean and Salcor 3G components and the location of sampling access points.

D. Operation, Maintenance and Monitoring:

- a. An operating permit in accordance with 64E-6.027(6) will be required for the performance-based, innovative treatment system installed under this permit.
- b. Fuji Clean shall identify to this office at least one maintenance entity trained and approved in the maintenance of Fuji Clean CE, and CEN series and Salcor 3G, and permitted in Florida before the operating permit of the first system is approved, or within 60 days after this permit, whichever occurs first. The maintenance entity will perform maintenance and monitoring per Fuji Clean and Salcor's Operation and Maintenance Manuals and perform any additional monitoring as required due to site-specific permit conditions.
- c. Sampling will be done in accordance with your protocol for sampling and QA/QC procedures dated March 10, 2016 and the following:
 - i. You will train samplers and/or identify to Fuji Clean and this office the samplers trained by others that will perform the sampling. Samplers could include you.
 - ii. The samplers will perform quarterly observations and sampling of the systems according to the procedures you outline. Complementing this, the Florida Department of Environmental Protection's standard operating procedures, in particular DEP SOPs FS 1000 "General Sampling" and FS 2400 "Wastewater Sampling" will provide guidance

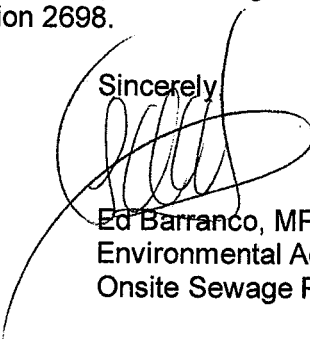
- (<http://publicfiles.dep.state.fl.us/dear/sas/sopdoc/2008sops/>). The samplers will document methods used to clean equipment and obtain samples.
- iii. The sampler will obtain samples for cBOD₅, TSS, total nitrogen (separated by total Kjeldahl nitrogen and nitrite/nitrate; for CEN-series only), and fecal coliform at least from the influent (first chamber of the Fuji Clean) and effluent. Ten percent quality control samples shall be included (duplicates, field blanks). Sampling shall occur before maintenance activities on the system.
 - iv. One or several NELAC-certified laboratories shall provide sampling containers to the samplers, receive samples within holding times and temperature requirements and analyze the required samples for cBOD₅, TSS, total nitrogen (separated by total Kjeldahl nitrogen and nitrite/nitrate; for CEN-series only), and fecal coliform. The laboratory will provide evidence of certification to this office. Dilutions for fecal coliform analysis shall be such that results at the annual average and grab sample limits (200 and 800 CFU/100 mL, respectively) can be quantified. Chain of custody protocols will document sampling containers. All sampling results shall be forwarded to the respective county health office, you, Fuji Clean, and this office. Sampling shall begin between 30 and 100 days after start of system operation.
 - v. Field observations will include alarm and water level conditions, water use, odors, and other indications of failure. A standardized field form to record observations and performed maintenance will be developed by you and Fuji Clean. The samplers will forward this form to the respective county health office, Fuji Clean, you and this office within one week after each site visit.
 - vi. During the first year, staff from this office anticipates accompanying the sampler at least once to observe procedures and system function.
- d. Treatment performance assessments will consider sample results overall and average performance per system.
- i. Duplicates should be within 20% of the original sample; equipment or field blanks should be below detection limits in at least 90% of cases. Duplicates will not be included in average performance calculations.
 - ii. Sample results below the detection limit will be calculated as the detection limit value. Fecal coliform sample results too numerous to count shall be not more than 10% of samples and shall be considered as 100 times the upper counting limit.
 - iii. Assessments will exclude samples that are agreed upon by Fuji Clean, and the Department to be not representative of the system. The reason for this shall be documented, addressed and another sample obtained.
 - iv. Ninety percent of grab samples shall meet a grab sample performance standard. The arithmetic average of arithmetic average system performance shall meet an average performance standard with a 95% confidence. For fecal coliform, the arithmetic average of geometric system averages shall meet the average performance standard with a 95% confidence. An outline is provided in attachment II.
 - v. If a median test between fecal coliform sample results obtained after CE-series and CEN-series unit and the Salcor 3G shows significant differences (95%), the data analysis shall be repeated separately for the two-treatment series.
- e. The health departments in the respective counties will inspect the systems annually for compliance with the operating permit and should use a standardized observation form to record their observations.
- f. If a system fails by not meeting site-specific applicable performance standards, or for other reasons, the system must, at Fuji Clean expense, either be reengineered, which may require a new or modified innovative system construction permit, or replaced with a system approved by the Department.

- E. Reclassification or expiration of the innovative system permit:
- a. To apply for reclassification, the monitoring information indicated under D and the required information for reclassification according to 64E-6.0295, FAC, shall be gathered and submitted.
 - b. It is anticipated that not all site and construction conditions will be equally represented in the sample of systems.
 - c. After reclassification of the innovative system, the installed innovative systems may remain in place as performance-based treatment system if they function without failure.
 - d. Upon expiration of the innovative system permit, should Fuji Clean fail to request reclassification or should the Fuji Clean CE or CEN series in conjunction with Salcor 3G fail to be reclassified, all remaining systems shall be removed and replaced with approved onsite sewage systems at Fuji Clean expense.

This approval gives you certain rights (see attachment III).

For further assistance or if you have any additional questions regarding this letter, please contact Eberhard Roeder at (850) 245-4250, extension 2698.

Sincerely



Ed Barranco, MPH, CEHP, CPM
Environmental Administrator
Onsite Sewage Programs

EB/er
Enclosures

cc: Scott Samuelson, Fuji Clean USA, LLC

Attachment I

Innovative Construction Permitting Forms of the Department

(<http://www.floridahealth.gov/healthy-environments/onsite-sewage/forms-publications/index.html>)

DH 3144 (<http://www.floridahealth.gov/healthy-environments/onsite-sewage/forms-publications/documents/dh3144.pdf>)

(date)

County Health Department

Attention: Environmental Health Director or
OSTDS Program Coordinator

I _____, owner of the residence or business property
located at (give physical location or street address) _____
understand that the proposed Onsite Sewage Treatment and Disposal System to serve my
property is permitted as an innovative system by the Department of Health.

I agree to allow agents of the Florida Department of Health, the manufacturer and the
local County Health Department to enter my property at reasonable hours for the purpose of
monitoring this system.

I agree that I will not hold DOH or the _____ CHD
responsible if this innovative system malfunctions.

I agree that I will notify _____ CHD of any
problems or malfunctions with this innovative system.

I also understand that if the innovative system fails within the five year testing period,
the manufacturer will be responsible for providing a certified installer who will provide
contractor equipment, material and labor necessary to modify the system or repair the system
with an DOH approved system at no additional cost to me. For the purposes of this evaluation,
failure of a system shall be defined as any system that meets one or more of the following
criteria: 1) systems that have been increased in size after installation for reasons other than
erroneous application information; 2) systems that experience effluent surfacing and sewage
backing up into the house plumbing; and 3) systems described by homeowner as having a
sluggish performance during wet weather or observed to have soggy, waterlogged soils above
the drainfield attributed to sewage effluent. The failure definition shall include persistent
electrical or mechanical device malfunctions. It is also my understanding that I will be
responsible for landscape restoration.

Sincerely,

Property Owner



**INNOVATIVE ONSITE SEWAGE TREATMENT AND DISPOSAL
SYSTEM REVIEW INFORMATION FORM**

TO BE COMPLETED BY COUNTY HEALTH DEPARTMENT

CONSTRUCTION PERMIT APPLICATION NUMBER: _____

Property Owner: _____
(Last, First, M.I. or Business Name)

Property Address: _____
(Physical Location or Street Location)

Mailing Address: _____
(Street Address or P.O. Box)

Owner's Agent: _____

Mailing Address: _____
(Last, First, M.I. or Business Name)

(Street Address or P.O. Box)

(City)

(State)

(Zip)

**PROVIDE THE FOLLOWING INFORMATION FROM SITE EVALUATION AND
PROPOSED CONSTRUCTION PERMIT AND ATTACH A COPY OF THE SITE PLAN:**

Septic tank(s): _____ gal. Public water supply:..... Y / N

Estimated sewage flow: _____ gpd Dosing tank(s): _____ gal.

Aerobic treatment Unit(s): _____ Lot size: _____ sq. ft.

DESCRIPTION OF INNOVATIVE SYSTEM AND COMPONENTS:

FOR STATE HEALTH OFFICE REVIEW ONLY

Date received: _____ Review form complete: _____ Y / N

Additional information requested: _____ Y / N Date: _____

Brief explanation of information requested: _____

Application: Approve Disapprove Reason: _____

Reviewed by: _____

Site Number _____ of _____ approved sites. Date: _____

Attachment III

NOTICE OF RIGHTS

A party whose substantial interest is affected by this action may petition for an administrative hearing pursuant to sections 120.569 and 120.57, Florida Statutes. Chapter 28-106, Florida Administrative Code, governs such proceedings. A petition for hearing must be in writing and must be received by the Agency Clerk for the Department within twenty-one (21) days from receipt of this notice. The petition may be mailed to the Agency Clerk, Department of Health, 4052 Bald Cypress Way, BIN #A-02, Tallahassee, FL 32399-1703; hand delivered to the Agency Clerk, Department of Health, 2585 Merchants Row Blvd., Prather Building, Suite 110, Tallahassee, FL; or sent by facsimile to (850) 413-8743.

Mediation is not available as an alternative remedy.

The failure of any person to file a petition for hearing within 21 days from receipt of this notice will constitute a waiver of that person's right to an administrative hearing, and this notice shall become a "Final Order."

Should this notice become a "Final Order," a party who is adversely affected by it is entitled to judicial review pursuant to section 120.68, Florida Statutes. Review proceedings are governed by the Florida Rules of Appellate Procedure. Such Proceedings may be commenced by filing one copy of a Notice of Appeal with the Agency Clerk of the Department of Health and a second copy, accompanied by the filing fees required by law, with the Court of Appeal in the appropriate District Court. The notice must be filed within 30 days of the filing of the Final Order.