



FLORIDA DEPARTMENT OF Environmental Protection

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Tallahassee, FL 32399-2400

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

December 12, 2023

Via email: scott@fujicleanusa.com

Scott Samuelson.
Fuji Clean USA LLC
41 Greenwood Road, Suite 2
Brunswick, Maine 04011

Re: Innovative System permit, version 1.4

Dear Mr. Samuelson,

This letter revises the June 7, 2019 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. The CE5, CE7, CE10, CE14, CEN5, CEN7, CEN10 and CEN 14 are currently listed by NSF International as meeting the requirements of NSF/ANSI Standard 40, and the CEN5, CEN7, CEN10 and CEN14 are also certified to NSF/ANSI Standard 245. The Department has approved treatment receptacles for these models, and considers them aerobic treatment units according to Rule 62-6.012, Florida Administrative Code (F.A.C.) as well as performance based treatment units according to Rules 62-6.025 to 6.029, F.A.C.

The objective of this revision is to change the innovative system permit to reflect that the ownership of the Salcor 3G UV disinfection unit has changed from Salcor Inc. to Longwave Inc, and the unit is now known as the Salcor 3G unit by Longwave UV, Inc. (Salcor 3G unit by Longwave UV). The Department's understanding based on the documentation provided is that the Salcor 3G unit by Longwave UV is the same as the former Salcor 3G UV disinfection unit manufactured by Salcor Inc. The second objective of this revision is to remove innovative system testing of the Fuji Clean CE and CEN units for nitrogen reduction from the innovative system permit because these units have been reclassified to nitrogen-reducing performance-based treatment systems and no longer require innovative testing.

A version of this permit (version 1.4) with tracked changes from the previous version (version 1.3) is enclosed.

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 one objective: to evaluate the performance of the Salcor 3G unit by Longwave UV 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).
- c. This innovative system permit allows 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.
- d. Bennette Burks, P.E., will be responsible for quality assurance and quality control of the field evaluation.
- e. 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 Fuji Clean and Mr. Burks. 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 Fuji Clean and Mr. Burks, 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.
- f. Application for reclassification of the Salcor 3G unit by Longwave UV treatment system component in conjunction with CE or CEN models according to 62-6.0295, FAC, shall include monitoring observations and sampling results from four repeated samples at quarterly intervals from the ten CE and CEN systems each.
- g. A list of the systems installed with the subset proposed to be sampled shall be provided to this office quarterly.
- h. All systems, will be designed, constructed, and installed as innovative performance-based treatment systems in accordance with this permit, Chapter 62-6, F.A.C., "Standards for Onsite Sewage Treatment and Disposal Systems", and Fuji Clean's Contractor Installation Manual for Fuji Clean, March 2020 with Florida Installation Notes, and the

Installation/Maintenance Manual for the Salcor 3G unit by Longwave dated August 2023, as appropriate for each installation.

- i. This permit (version 1.4) 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, either from the CE or the CEN series. The tanks housing the treatment systems shall be approved treatment receptacles in Florida.
- b. A Salcor 3G unit by Longwave UV, Inc assembly, as described by the Installation/Maintenance Manual for the Salcor 3G unit by Longwave dated August 2023. 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. We understand that the configurations in series and parallel will not be tested as part of this innovative system permit.
- 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-certified Fuji Clean treatment units, and the alarm board for the Salcor 3G unit by Longwave UV, Inc.
- e. All systems shall include a method for monitoring flow through the system in accordance with Rule 64E-6.026(2)(a), F.A.C. Water meter observations for establishments served by a public water system shall be recorded.

C. Construction Permitting:

- a. Systems to be evaluated under this ISP, must be permitted as innovative performance-based treatment systems.
- b. Engineers licensed in the State of Florida shall design, sign and seal site-specific system construction permit applications for performance-based treatment systems in accordance with rule 62-6.026(2), F.A.C. 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. All applications shall include a blank 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. If Mr. Burks is not the engineer of record, he, as the QA/QC-officer, must approve of the site selection and design specifications of each installation.

- a. The specified performance level per rule 62-6.026(2)(a), F.A.C., must include at least secondary treatment levels for carbonaceous biochemical oxygen demand after five days (CBOD5), total suspended solids (TSS) and secondary or advanced secondary treatment levels for fecal coliform. 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)	
TN (mg/L) (eight additional, weekly tests)	47.6	15.7 (TKN 7.9; NOx 5.9)	
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
Component	Salcor 3G following Fuji Clean CEN series (27-39 gpm)		
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)	

- b. A construction inspection by the Department shall occur after installation of the system and before covering.
- c. 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 unit by Longwave components and the location of sampling access points.
- d. Systems shall have received final system approval by the appropriate CHD, have an operating permit, and be in actual use before monitoring for this evaluation is allowed to occur.

D. Operation, Maintenance and Monitoring:

- a. An operating permit in accordance with rule 62-6.027(6) F.A.C. 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 by Longwave, 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's Operating and Maintenance Manual dated March 2020 and Longwave UV's Installation and Maintenance Manuals and perform any additional monitoring as required due to site-specific permit conditions.
- c. Sampling will be performed in accordance with Fuji Clean's protocol for fecal coliform sampling and the following:
 - i. Sampling shall begin between 30 and 100 days after start of system operation.
 - ii. Third party samplers will perform quarterly observations and sampling of the systems according to the procedures outlined in Fuji Clean's sampling protocol. The samplers will document methods used to clean equipment and obtain samples.
 - iii. The sampler will obtain samples from the Fuji Clean unit and a sample port after the Salcor 3G by Longwave. The samples shall be analyzed for the following parameters: CBOD₅, TSS, and fecal coliform. 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, 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, Mr. Burks, and this office.
 - v. Field observations will include alarm and water level conditions, water use, odors, and other indications of failure. The standardized field form to record observations and performed maintenance developed by Mr. Burks and reviewed by this office will be used. The samplers will forward this form to the respective county health office, Fuji Clean, you and this office.

- vi. During the first year that sampling commences, 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. 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 unit series.
 - v. The minimum number of test system medians that must meet the annual average performance level of 200 cfu/100 ml is based on the total number of test systems per Table 1 in Appendix II. This reflects the target to be 90% confident that more than 50% of data points meet the proposed performance level.
 - vi. The minimum number of individual data points required to meet the individual proposal performance level is based on the total number of test systems per Table 2 in Appendix II. This reflects the target to be 90% confident that more than 75% of the data points meet the proposed performance level.
 - e. The health departments in the respective counties will inspect the systems annually for compliance with the operating permit and may use the standardized observation form (D.c.v) 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 rule 62-6.0295, F.A.C., shall be gathered and submitted. In addition, an

- engineering report needs to accompany the request for classification that summarizes the data and certifies that they are valid.
- 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 CEN series in conjunction with Salcor 3G by Longwave UV fail to be reclassified, all remaining systems permitted as innovative 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 Debby Tipton at 850-245-8629.

Sincerely,



Eberhard Roeder, PhD, PE, CPM
Program Administrator
Onsite Sewage Program

ER/dt

Enclosures

Cc: Bennette D. Burks, P.E.

Attachment I
Innovative Construction Permitting Forms of the Department
(<https://floridadep.gov/water/onsite-sewage/content/onsite-sewage-forms-and-publications>)

DH 3144 <https://www.flrules.org/gateway/reference.asp?No=Ref-14395>)

(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 Environmental Protection (DEP).

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

I agree that I will not hold DEP 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 DEP 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 FORM**

TO BE COMPLETED BY 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 APPLICATION:**

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 ONSITE SEWAGE PROGRAM 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 II

TABLE 1. MINIMUM NUMBER OF TEST SYSTEM MEDIANS REQUIRED TO MEET THE ANNUAL PROPOSED PERFORMANCE LEVEL *(TREATMENT SYSTEMS)

Total Number of Test Systems	Number of Test System Medians Required to Meet the Proposed Performance Level (Annual)		Total Number of Test System	Number of Test System Medians Required to Meet the Proposed Performance Level (Annual) **
3	3		31	20
4	4		32	20
5	4		33	21
6	5		34	21
7	6		35	22
8	6		36	22
9	7		37	23
10	8		38	23
11	8		39	24
12	9		40	25
13	9		41	25
14	10		42	26
15	10		43	26
16	11		44	27
17	12		45	27
18	12		46	28
19	13		47	28
20	13		48	29
21	14		49	29
22	15		50	30
23	15		51	31
24	16		52	31
25	16		53	32
26	17		54	32
27	17		55	33
28	18		56	33
29	18		57	34
30	19		58	34

*The target is to be 90% confident that more than 50% of data points meet the proposed performance level. Median system treatment performance compared to average treatment standard in 62-6.025.

** Based on normal approximation to the binomial distribution. For larger number of system tested use (minimum meeting=round (number systems *(0.5+1.28*sqrt(0.5*(1-0.5)/number systems))+0.5).

TABLE 2. MINIMUM NUMBER OF DATA POINTS REQUIRED TO MEET THE INDIVIDUAL PROPOSED PERFORMANCE LEVEL *(TREATMENT SYSTEMS)

Total Number of Individual Data Points	Number of Data Points Required to Meet the Proposed Performance Level (Individual)		Total Number of Individual Data Points	Number of Data Points Required to Meet the Proposed Performance Level (Individual)**
10	10		40	34
11	11		41	35
12	11		42	36
13	12		43	36
14	13		44	37
15	14		45	38
16	15		46	39
17	16		47	40
18	16		48	40
19	17		49	41
20	18		50	42
21	19		51	43
22	20		52	43
23	20		53	44
24	21		54	45
25	22		55	46
26	23		56	47
27	24		57	47
28	24		58	48
29	25		59	49
30	26		60	50
31	27		61	51
32	28		62	51
33	28		63	52
34	29		64	53
35	30		65	54
36	31		66	55
37	32		67	55
38	32		68	56
39	33		69	57

**The target is to be 90% confident that more than 75% of the data points meet the proposed performance level. Grab sample treatment performance compared to grab sample standard in 62-6.025.*

*** Based on normal approximation to the binomial distribution. For larger number of data points use (minimum meeting=round (number systems *(0.75+1.28*sqrt(0.75*(1-0.75)/number systems))+0.5).*

Attachment III

NOTICE OF RIGHTS

This action is final and effective on the date filed with the Clerk of the Department unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the hearing process may result in a modification of the agency action or even denial of the request for a variance or waiver.

Petition for Administrative Hearing

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Unless otherwise provided by statute, and except for agency enforcement and disciplinary actions that shall be initiated under Rule 28-106.2015, F.A.C., pursuant to Rule 28-106.201, F.A.C., a petition for an administrative hearing must contain the following information:

- (a) The name and address of each agency affected and each agency's file or identification number, if known;
- (b) The name, address, telephone number, and any e-mail address of the petitioner; the name, address, telephone number, and any e-mail address of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests are or will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the agency decision;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
- (f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000. The Agency Clerk's email is agency_clerk@FloridaDEP.gov. Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

Time Period for Filing a Petition

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing must be filed within 21 days of receipt of this written notice. The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under [Sections 120.569](#) and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

Extension of Time

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, before the applicable deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation

Mediation is not available in this proceeding.

Judicial Review

Once this decision becomes final, any party to this action has the right to seek judicial review pursuant to Section 120.68, F.S., by filing a Notice of Appeal pursuant to Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, M.S. 35, Tallahassee, Florida 32399-3000; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this action is filed with the Clerk of the Department.