



Approval Processes for Nutrient- Reducing Systems

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Outline

- **Aerobic Treatment Units (ATUs).**
- **Innovative System Permitting (ISP) and Testing.**
 - **Application.**
 - **Installation and Evaluation.**
 - **General Approval (Reclassification).**



Aerobic Treatment Units: Uses

- **Compliance with county ordinances.**
- **Pretreatment for drip irrigation.**
- **Allow 25% drainfield reduction in sandy soil.**
- **Some ATUs provide 50% nitrogen-reduction to comply with spring onsite sewage treatment and disposal system (OSTDS) remediation plan requirements.**



Aerobic Treatment Units: Approval

- **Not required to be tested as innovative system when permitted as an ATU.**
- **Product approval requires testing and certification to standards developed by National Sanitation Foundation International (NSF).**
 - **NSF 40 Residential Wastewater Treatment Systems.**
 - **NSF 245 Residential Wastewater Treatment Systems – Nitrogen Reduction.**
- **Product approval requires compliance with section 62-6.012, Florida Administrative Code (F.A.C.).**
- **Must be installed as tested and certified to standard.**



Bottlenecks/Issues

ATU Approval

- **Providing approved tanks for the ATU.**
- **Additive review (if any is used).**
- **Applicant not responsive to requests for information.**
- **Proposals to install product in a manner not certified.**
- **Installation of some ATUs conflicts with rules.**



Efforts to Accelerate ATU Approvals

“Fast track” procedure June 2020 in response to Senate Bill 712.

- **Electrical wiring of alarm (reliance on certification to NSF standards).**
- **Operations and maintenance manual compliance with state regulations.**
- **Prioritize NSF-245 ATU reviews (other approvals must still meet required review and approval timelines).**

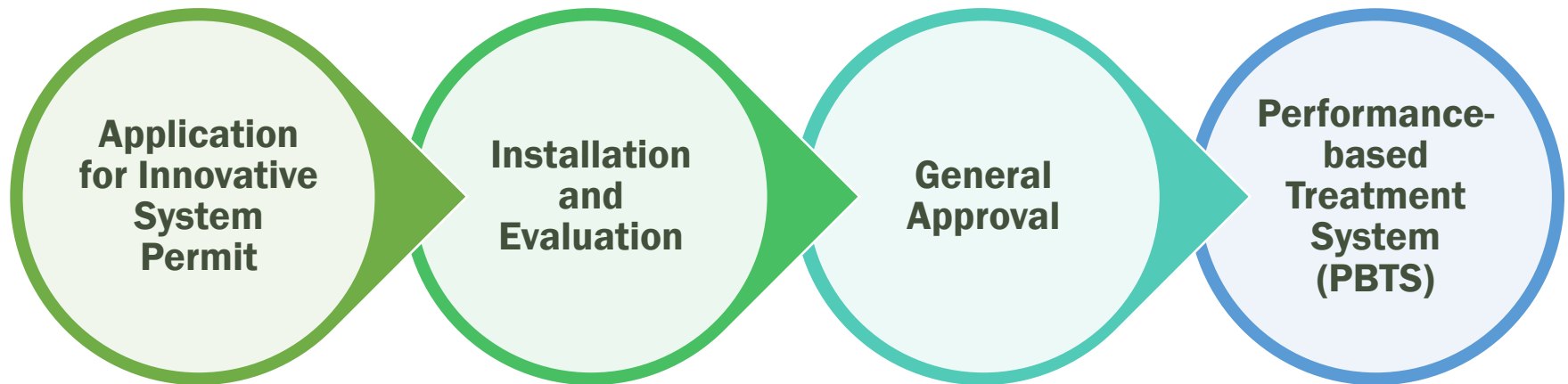


Possible Alternatives

- **Process timing changes/efficiencies.**
- **Requirements:**
 - **Revise rule on tanks that cause common conflicts (seams, seals, sealants).**
 - **Make special rules for combined treatment and disposal systems installed outside of NSF 40 certification.**



Innovative Systems





History

- **Florida began to permit non-traditional onsite system components in the 1980s.**
- **A particular drainfield product installed in Florida after approval without prior testing had a high number of failures.**
- **Many homeowners were left with failing systems that needed to be replaced.**
- **Experience pointed to the need for a framework to evaluate novel and unique technologies untested in the state.**



Innovative Systems

Definition:

“...an onsite sewage treatment and disposal system that, in whole or in part, employs materials, devices or techniques that are novel or unique and that have not been successfully field-tested under sound scientific and engineering principles under climatic and soil conditions found in this state.”

Section 381.0065(2)(h), Florida Statutes (F.S.)



Innovative System Permit Authority

Section 381.0065(3), F.S.: Duties and Powers of the Department of Environmental Protection

The department shall:

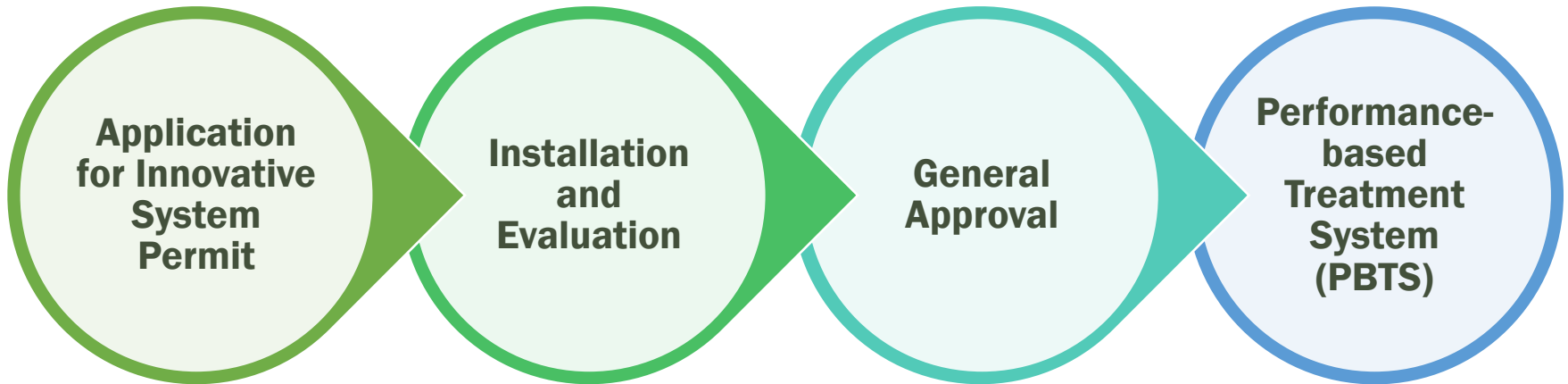
... (e) Permit the use of a limited number of innovative systems for a specific period of time, when there is compelling evidence the system will function properly and reliably ...

... (k) An innovative system may be approved in conjunction with an engineer-designed site-specific system that is certified by the engineer to meet the performance-based criteria ...



Innovative System Permitting and Testing

Treatment Systems





Innovative System Permit Application

Section 62-6.026, F.A.C., contains:

- **Application (DEP/DH 3143 Form).**
 - **Signed/sealed by engineer.**
- **Monitoring (Sampling and Analysis) Protocol.**
- **Compelling Evidence of Product Testing.**
 - **Testing data by third-party organization approved through NSF Environmental Technology Verification (ETV) program.**



Innovative System Permit Application – 2

- **DEP/DH 3143 Form needs:**
 - Research and development studies.
 - Results of previous testing.
 - Design and installation criteria.
 - Performance and reliability data.
 - A disinterested third-party certifier report, or a Florida registered engineer report.
 - Copy of system or product warranty.
- **Operations and maintenance manual.**
- **Number of systems, testing time period requested.**



Challenges

Application

**Innovative
System
Application**

Data (compelling evidence) requirements.

Product violates rule requirements.

Process issues.

Monitoring protocols are not standardized (product specific).

Additive review.



Data Required for Application

Compelling Evidence

Now

- **Compelling evidence must include testing by facility approved through the NSF International/Environmental Technology Verification Program.**

Possible Alternatives

- **Broaden acceptable data.**
- **Two-step process:**
 - 1) Test one system to obtain compelling evidence.**
 - 2) Once data is gathered, proceed to full innovative testing.**



Rule Violations

Now

- Address all rule violations prior to start with variances

Possible Alternatives

- Allow for exemption of certain rule-specified construction standards during innovative system testing.
- Allow results of innovative system testing to inform variance considerations; can compress timeframe.



Process Issues

Now

- **Frequency of information exchange between DEP and applicants.**
- **Delays in applicant's response to DEP's request for information.**

Possible Alternatives

- **Clearer application requirements.**
- **Require applicant to respond within certain timeframes.**



Monitoring Protocol

Now

- **Not standard for each ISP.**

Possible Alternatives

- **Provide standard conditions.**
- **Have separate specifications for disposal systems and treatment systems, including minimum number of systems.**
- **Uniformly evaluate data during application and during reclassification.**



Installation and Evaluation

- **Manufacturer identifies locations.**
- **Permitted as PBTs.**
- **Systems monitored under terms of innovative system permit.**



Challenges

Installation and Evaluation

**Installation and
Evaluation**

Adherence to ISP.

**Modification of ISP to
incorporate
experiences from the
field.**

**Training on installation
and inspection
procedures.**



Lack of Adherence to ISP or Clarity of ISP

Now

- **Manufacturers and installers want to change agreed permit conditions when they install and monitor systems.**
- **Inspection protocols for tested system unclear.**
- **Some issues require revisions to the innovative system permit (adds to timeframe).**

Possible Alternatives

- **Require more training and guidance by manufacturer, including inspection protocols.**



General Approval

Reclassification

Section 62-6.0295, F.A.C., requires:

- **Results and analysis of monitoring of the systems installed.**
- **Observations of system performance.**
- **Maintenance, repairs or modifications performed on any systems.**
- **Comments from the system operators or users.**
- **Comments from the design engineers who designed the individual system designs.**



General Approval

Reclassification – 2

Section 62-6.0295, F.A.C., requires:

- **Comments from the county health departments in the counties where the systems were installed.**
- **Specification of the proposed classification as performance-based.**
- **Rationale for the proposed type of classification desired.**
- **Proposed monitoring protocol.**
- **A sample manual addressing the siting, design, installation, inspection, operation, maintenance and abandonment procedures.**



Challenges

General Approval

General Approval

Evaluation criteria.

**Current
reclassification to
PBTS and alternative
systems.**



Evaluation Criteria

Now

- Is product-specific in each innovative system permit.
- Previously, looked at average treatment performance.

Possible Alternative

- Evaluate all treatment products and all disposal products in a standardized manner using calculation procedures.
- Look at data distribution.



Evaluation Criteria – 2

Now

- In rule there are two types of systems; products must be either a treatment system or an alternative system (typically, alternative drainfield product).

Possible Alternative

- Create rule language to allow for other system categories.



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