Continuous Monitoring & Controlled Discharge for Tank Farms

EnviroEye, LLC | Houston, Texas

Why Storm Water Matters at Terminals

When it rains at a fuel or chemical terminal, that water does not stay clean.

Runoff flows across tank roofs, diked containment, truck and rail racks, and paved surfaces — picking up hydrocarbons, oil sheen, and chemical residue.

Now the operator has a decision to make.

Is it safe to discharge?
Or is it about to become a reportable event?

If regulators ask tomorrow, can you prove what was discharged today?

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Operational Challenges

- Volume vs. Contamination
- Operational & Safety Burden
- Compliance & Documentation Risk

Does your operation dictate the roof drain valve be left…

OPEN?

In cases of slight or torrential rains, all rainwater immediately drains from the roof through and out of your tank. However, if the internal roof drain line fails, the stored product drains through the failed line onto the ground, causing hazardous material discharge into the tank dike

CLOSED?

In light or heavy rain conditions, it is essential that an operator immediately respond by manually opening the roof drain line. If excessive rainwater is allowed to accumulate on the roof, loss of buoyancy may occur, resulting in sinking of the roof, damage to the tank wall and release of stored product into the environment

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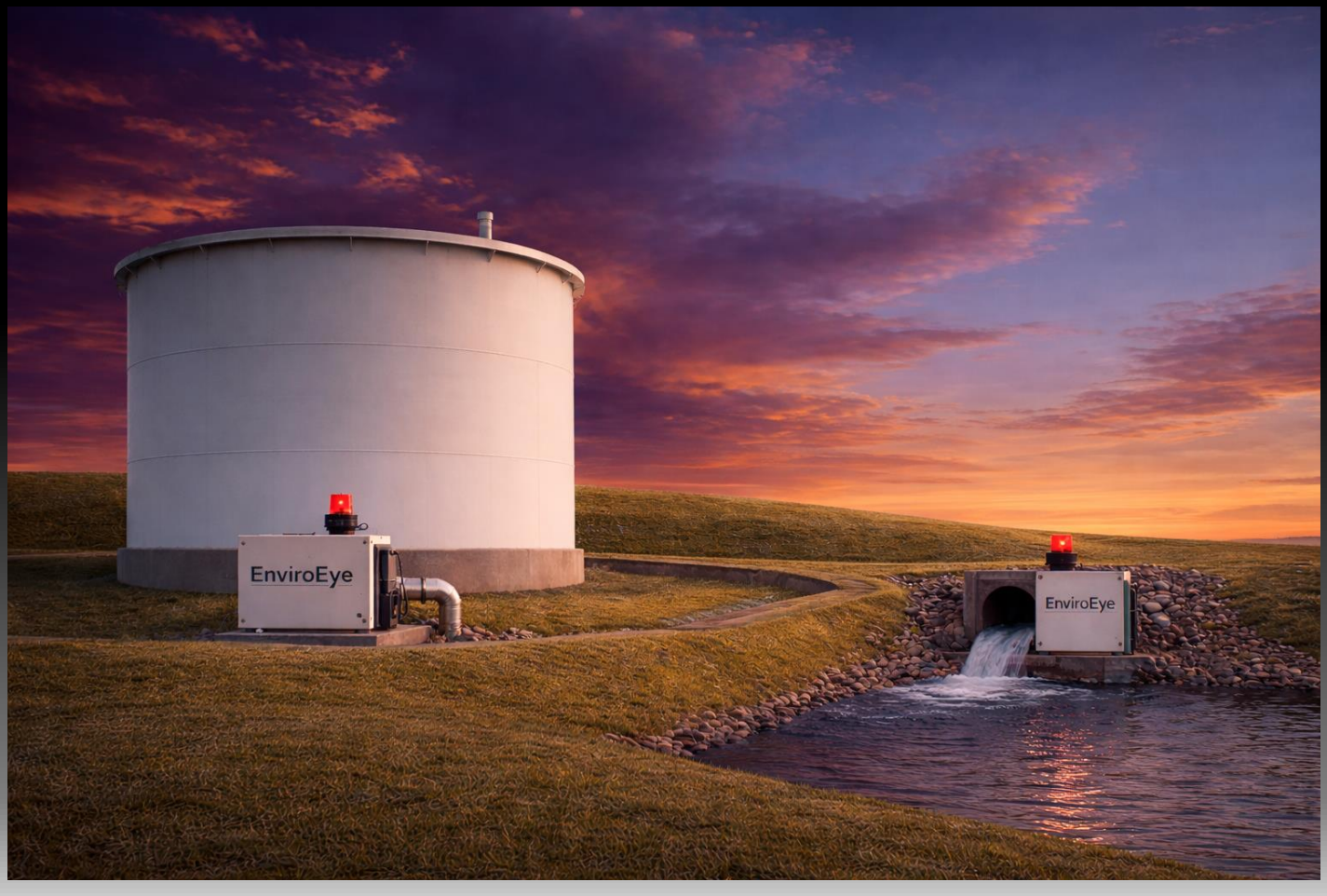
Valve-Open vs Valve-Closed scenarios -both expose operators to potential contamination, permit violations, media attention, tank failures and extended downtime.

The Concept behind EnviroEye



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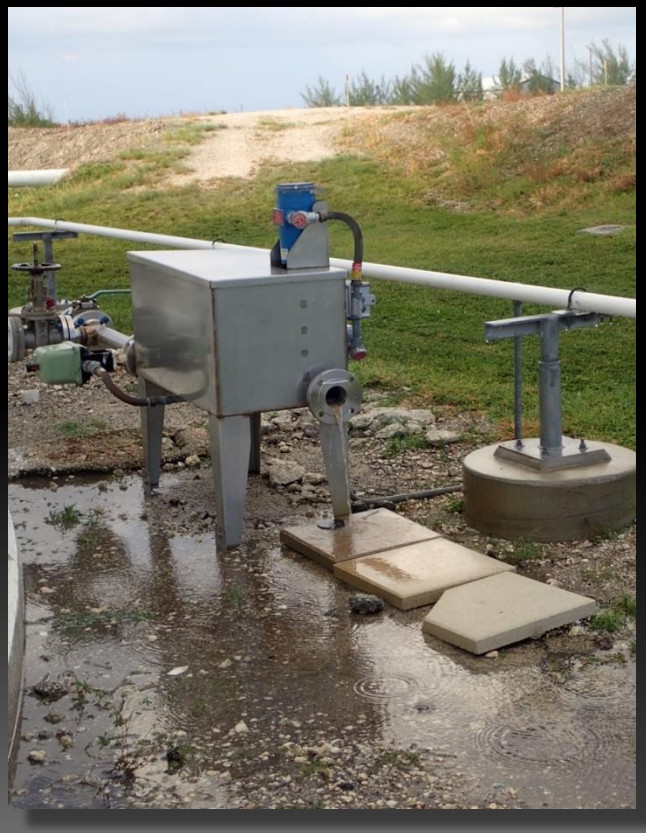
The *Floating Roof Drain Guard System's* flow chamber includes a *hydrocarbon sensor* that can be set to a desired level of sensitivity and *programmed* to deploy a customized alert



3 Main System Capabilities:

(1) *Detect* the presence of hydrocarbons

(2) *Signal* the valve or pump to *turn on/off*

(3) Mitigate release of stored product into the environment

EnviroEye Minimizes Your Risk

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Why use EnviroEye?

- Stormwater accumulation in external floating roof tanks and secondary containment areas creates operational risk.
- Manual drain monitoring is inconsistent, labor-intensive, and reactive.
- Undetected hydrocarbon sheen or roof weeps can escalate into environmental exposure and reportable events.
- EnviroEye provides automated monitoring and controlled discharge — adding oversight where it matters most.

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Removal of rainwater accumulation from open top floating roofs on ASTs presents an operating concern

Solves your operating dilemma

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1. Protect personnel
2. Maintain drain line open safely
3. Prevent product loss
4. Reduce cleanup cost
5. Mitigate compliance risk

Reasons to Strengthen Monitoring with EnviroEye

EnviroEye – At a glance
(mA reader)

1) Allows operator to view status of system

2) 6 milliamps is normal operation = ok

3) Less than 5 – check unit, maybe a bulb is out
4) Above 6 – MOV is shut, unit needs attention

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1. Diked areas
2. External floaters - EFRTs
3. Truck racks, rail cars, dock lines
4. Contact Water Tanks
5. Sumps
6. Well Heads

Primary Locations for EnviroEye Monitoring

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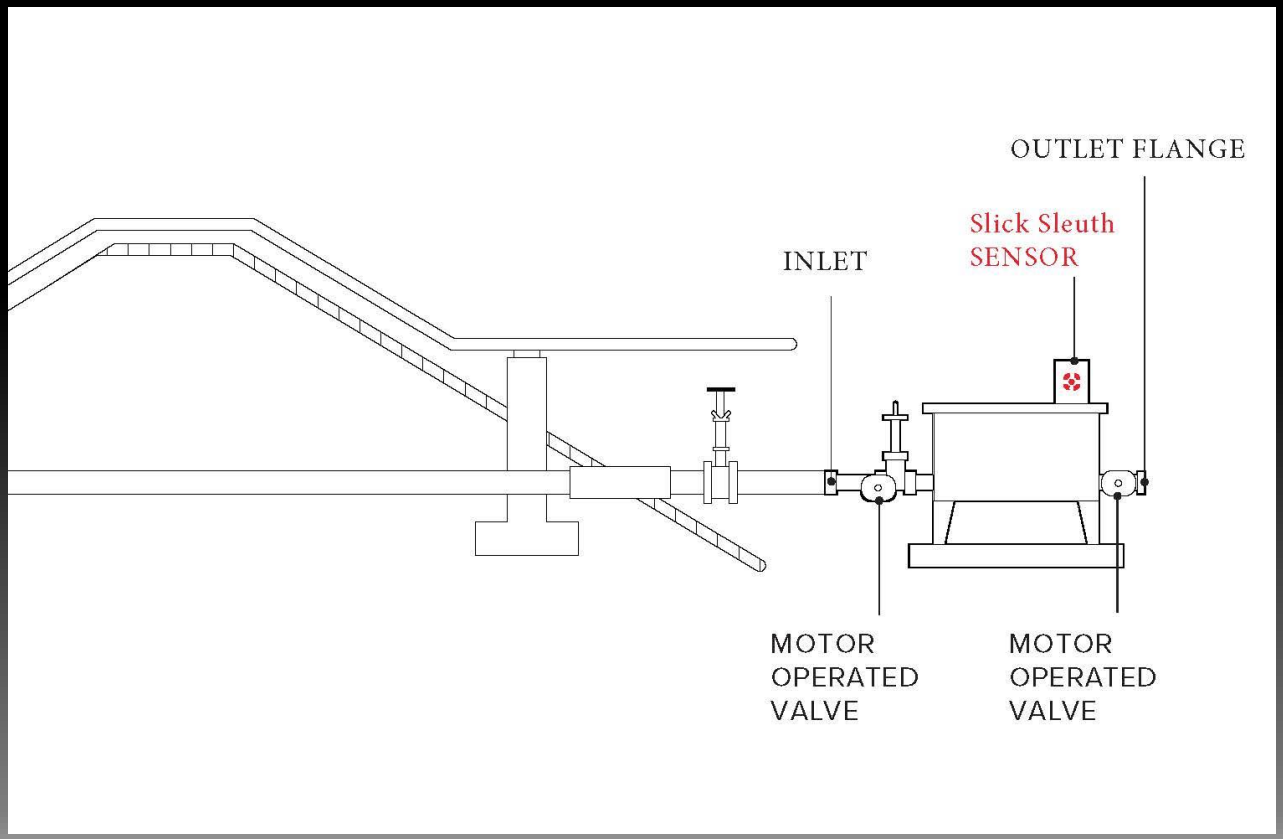
Use Scenario #1 – Dike Outfall



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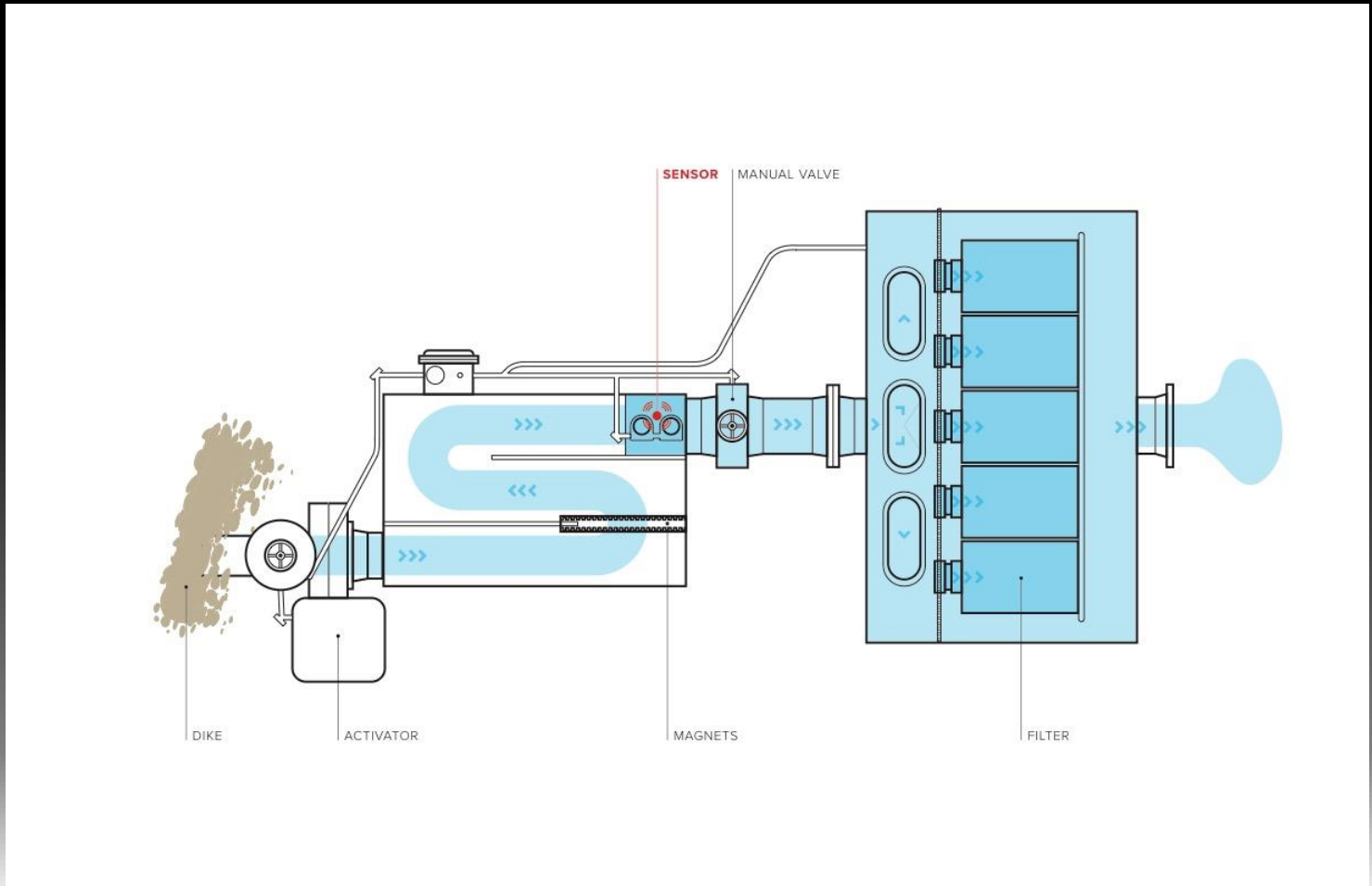
Use Scenario #1 – Dike Outfall



Secondary Filter chamber reduces product on the ground.
EnviroEye protects the filters.

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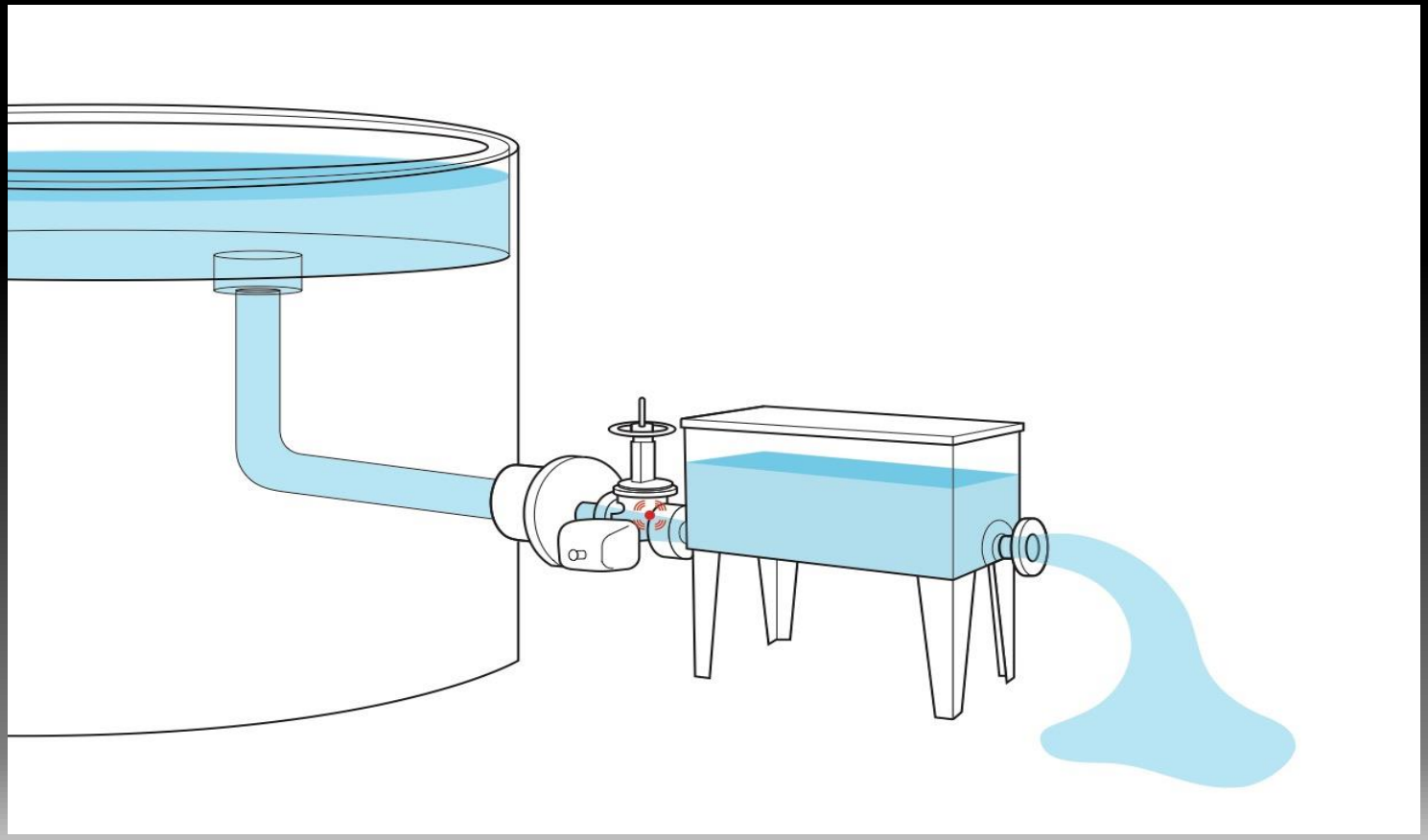
Use Scenario #2– Roof Drain Valve



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EE DGS EFRT 040601 w/ CWP

EE DGS EFRT 060801

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EE DGS EFRT 040601

Local Alerts

- ❑ Visual Alerts – Beacons
- ❑ Audible Alerts – Horns
- ❑ Discrete Wires for Control Room Connections

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EnviroEye - Sensor Outputs
(Slick Sleuth UV-fluorometer technology)

1) Industrial Relays for:
   a. Status (green/yellow)
   b. Detect-Alarm (green/red)

2) Analog Output – 4/20mA Analog

3) Serial Output - RS485

Remote Communication Package

- *NEMA4 Enclosure Weatherproof*
- *Positioned outside of the explosion envelope*
- Control Room Accessible

Modem Capabilities:

(1) Alert staff via text message when threshold amounts of hydrocarbons are present in the run-off .

(2) Remotely *close ("activate"/"deactivate")* shut off valve *or* pump as programmed

EnviroEye Secure Modem

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Capabilities available:

Breakers, Modem and surge protection.

(Option Available.)

Enclosure - outside the EX-envelope.

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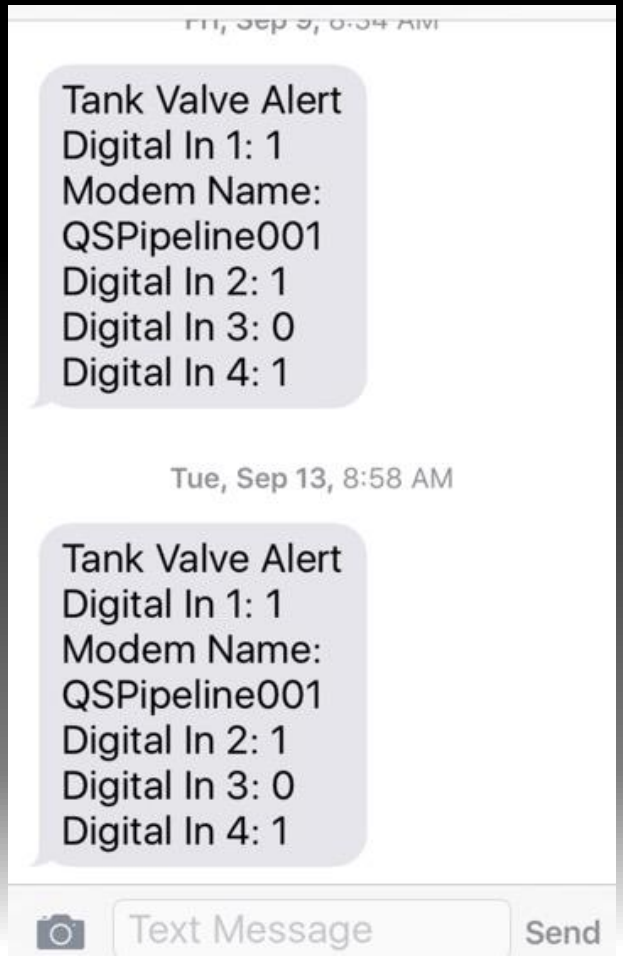
Text Message Alerts



EnviroEye – Power Requirements

1) 120 Volt with 20 amp circuit breaker

2) 240 Volt with 20 amp circuit breaker

3) MOV speed options available.

4) Systems with Cold Weather Package(CSP) need a second circuit.

Cold Weather Package (CWP)

Insulated Heat Trace Tape

Engineered Jackets

Extra Power Circuit Needed

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Slick Sleuth - Sensor
(Cold Weather Package)

1) Internal heater option

2) Insulation Blanket

3) Dessicant packs also help control humidity

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Installation: Bypass for easier management


Recommended use of a containment basin or
Concrete pad for leveling and to secure the unit

EnviroEye System during a rain event.

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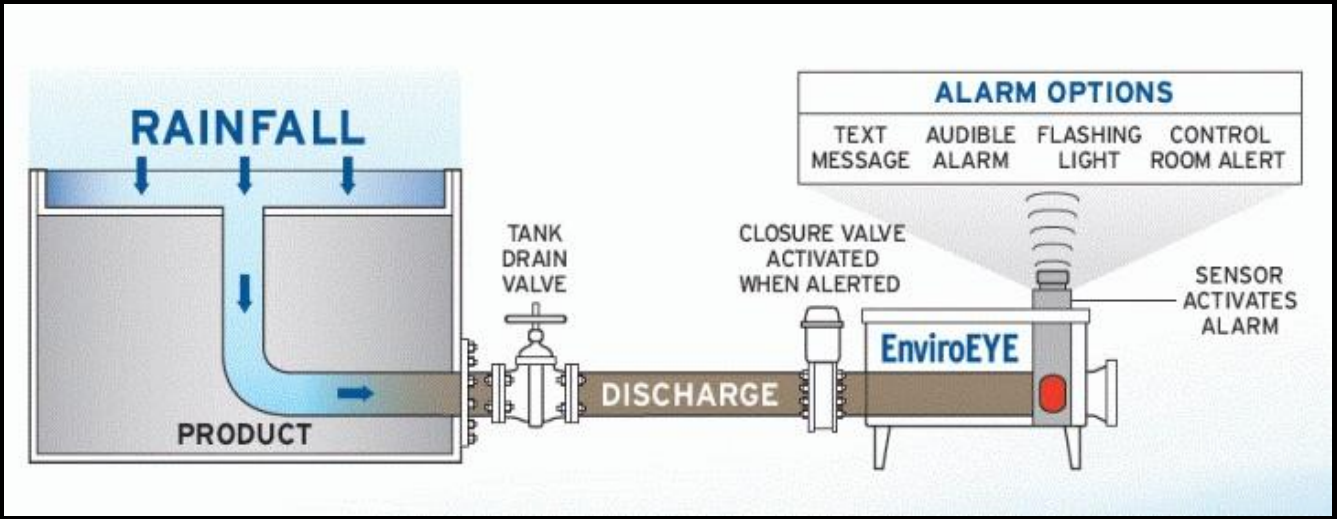

Components

- Motor-operated closure valve (MOV)
- Flow chamber with baffle and hydrocarbon sensor
- Magnets that capture scale from tank
- Control box
- Override switch
- Milliamp reader

Custom Options

- Bypass manifold
- Secondary MOV
- Filter Chamber
- Visual Alert, modem, audible alarm and control room device interface
- Battery backup (UPS)
- Colder Weather Package

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Operational Advantages

- EnviroEye enables operators to maintain valves in the operationally preferred open position — without sacrificing oversight.
- Stormwater drains continuously, minimizing roof loading and reducing the risk of structural stress or sinking roofs.
- With 24/7 sheen monitoring, EnviroEye detects roof weeps and leaks early — before they become reportable spills.

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Operational Insight Through Monitoring

- Identify developing roof weeps early
- Track routine maintenance patterns
- Reduce unexpected failure events
- Improve planning for tank service

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Meets Hazardous Location, Class I, Division I, Explosion Proof standards outlined in NFPA 70–The National Electric Code ® by the National Fire Protection Association

EnviroEye Safety Standards

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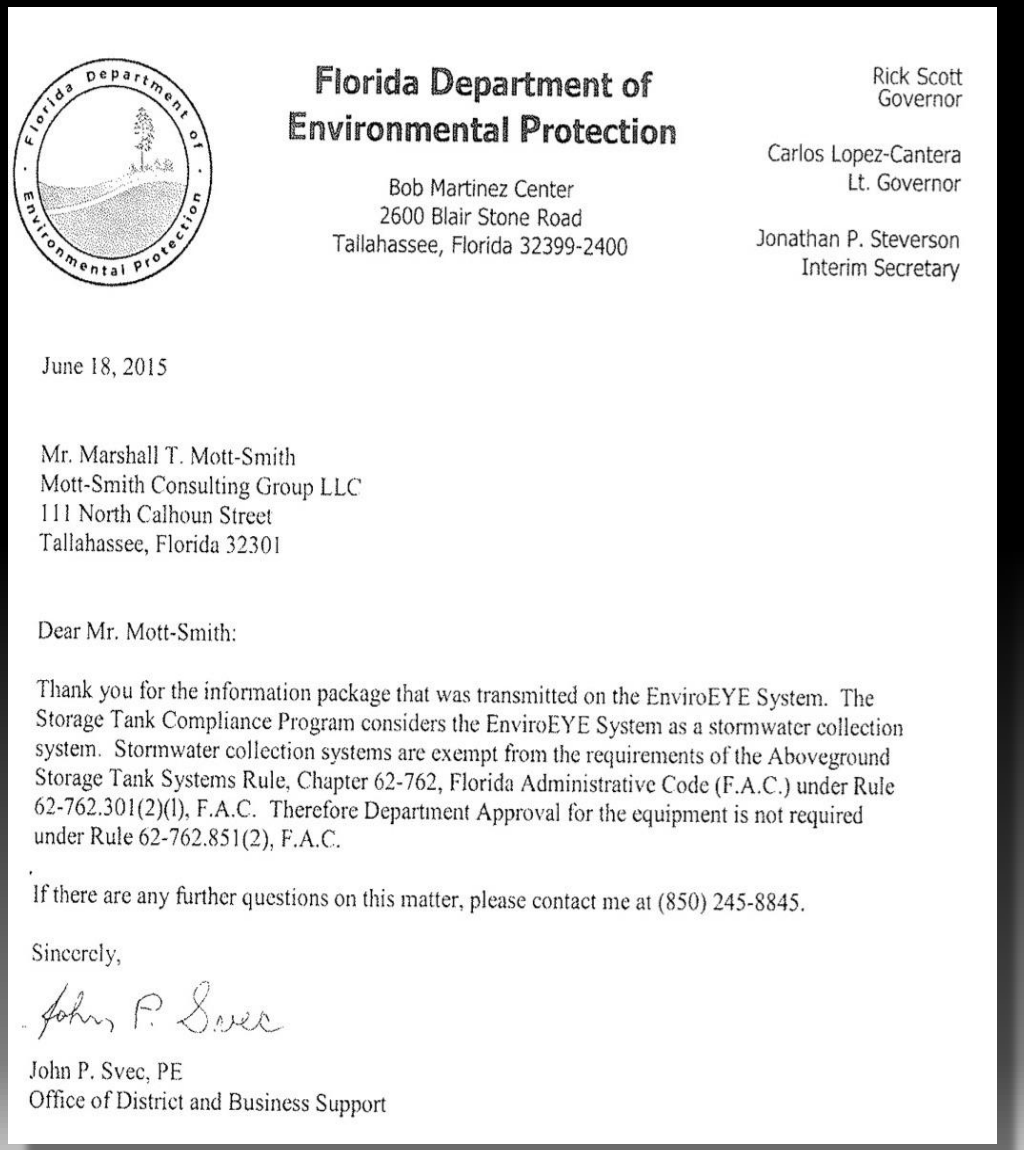

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Jonathan P. Steverson
Interim Secretary

June 18, 2015

Mr. Marshall T. Mott-Smith
Mott-Smith Consulting Group LLC
111 North Calhoun Street
Tallahassee, Florida 32301

Dear Mr. Mott-Smith:

Thank you for the information package that was transmitted on the EnviroEYE System. The Storage Tank Compliance Program considers the EnviroEYE System as a stormwater collection system. Stormwater collection systems are exempt from the requirements of the Aboveground Storage Tank Systems Rule, Chapter 62-762, Florida Administrative Code (F.A.C.) under Rule 62-762.301(2)(l), F.A.C. Therefore Department Approval for the equipment is not required under Rule 62-762.851(2), F.A.C.

If there are any further questions on this matter, please contact me at (850) 245-8845.

Sincerely,

John P. Svec

John P. Svec, PE
Office of District and Business Support

Florida Department of Environmental Protection Storage Tank Compliance Program

Stormwater collection systems are exempt from the requirements of the Aboveground Storage Tank Systems Rule

A Stormwater Collection System

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”As terminal manager, I sleep better at night knowing that EnviroEye is on the job *24 hours a day, 7 days a week* ”

— Dan Silvestro,
Key West Pipeline Company
Key West, Florida

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"We developed and put into operation *a Floating Roof Drain Guard Syste*m that works, and it works well! It is boosting our operational efficiency, minimizing our risks, protecting our capital investment, and safeguarding the environment"

— Mark Rauch President,
Pipeline & Terminal Management Corporation
Houston, Texas

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- External application utilizes flange connections
- Installation involves positioning and leveling the interface on a concrete slab with no service interruption
- Maintenance costs are minimal
- Sensor is proven, optical, non-contact solution with high-sensitivity to oil/fuel

Simple Installation, Minimal Maintenance

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Contact Information

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