

NETWORK SECURITY SOLUTIONS


# Water/Waste Water Company Implements DHS Defense-In-Depth Cybersecurity Strategies


## Company Overview


### CASE SUMMARY:

Major regional water/waste water authority serving over 800,000 customers.

 **INDUSTRY:**  
Water-Wastewater

 **CHALLENGE:**  
Company recognized need to improve cybersecurity posture, following guidance from DHS, while retaining business continuity.

 **SOLUTION:**  
OPDS-1000 data diodes deployed to transfer reporting & alarming information and provide remote HMI screen replication.

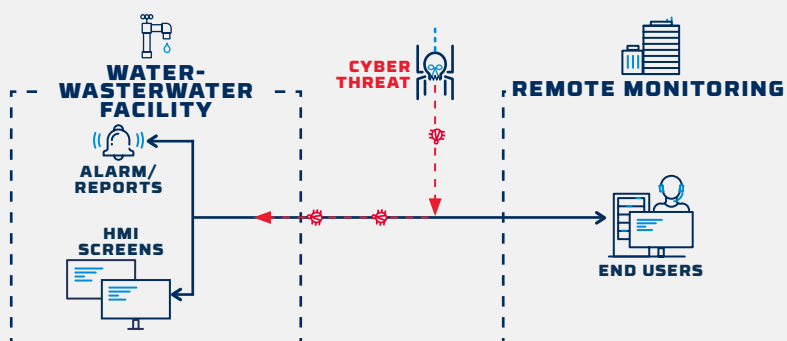
 **BENEFITS:**  
Deterministic, one-way data flow secured OT network from outside influence or attack, and enabled real-time, remote HMI screen monitoring at HQ.

## Cybersecurity Challenge

In accordance with Department of Homeland Security (DHS) guidance issued in the paper, "Seven Strategies to Defend Industrial Control Systems," the company created a cybersecurity plan to reduce the surface area of their operational technology (OT) networks and create a more defensible environment.

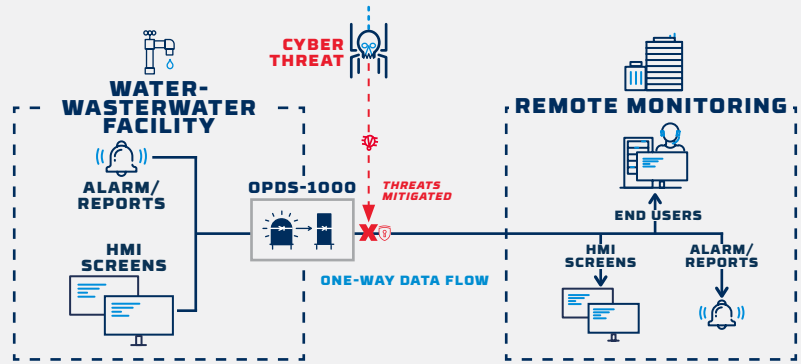
### REQUIREMENTS:

1. Change security policy and only execute command and control operations from within the OT/plant network boundary
2. Implement a "disconnected" (segmented) cybersecurity architecture to eliminate all remote access to the OT/plant network.
3. Maintain business continuity through remote-only monitoring policies
4. Enable Human Machine Interface (HMI) screen replication at HQ



**SOLUTION**

Owl data diodes utilizing patented technology (OPDS-1000) was selected to remove remote access to the OT network and provide effective network segmentation, and deterministic, one-way data transfer out of OT network. Along with OV2S application, this provided remote system monitoring, transfer of operational reports and a means to replicate HMI screens at remote locations.



**Deployment**



**OPDS-1000**

**Owl Perimeter Defense Solution - 1000**

Self-contained 1U data diode, purpose-built for network segmentation and deterministic, one-way data transfer.

**INTERFACE MODULES**

**Owl Virtual ScreenView Service (OV2S)**



Software protocol adapter that enables secure replication of HMI screens within a plant or facility to a remote location.

**Results**

- 1 Improved security according to DHS strategies for defending industrial control systems
- 2 Removed all inbound communications to OT networks while providing deterministic outbound data flow for monitoring and business continuity
- 3 Enabled HMI screen replication for real-time offsite monitoring
- 4 Allowed remote access to operations reports and alarms at HQ



Owl Cyber Defense Solutions, LLC leads the world in data diode and cross domain network cybersecurity. With a constant focus on customers in the military, government, critical infrastructure, and commercial communities, Owl develops market-first, one-way data transfer products to meet a variety of operational needs, from entry level to enterprise.

For more information on Owl, or to schedule a demo, visit [www.owlcyberdefense.com](http://www.owlcyberdefense.com)