# FEND ®

Physically Block
Cyberattacks

Protecting Oil and Gas Pipelines from Cyberattack Using Fend Data Diodes

Oil and gas (O&G) pipeline operators need access to real-time operational data without exposing themselves to cyberattack. To protect against the threat of supply chain disruption, the Transportation Security Administration (TSA) has recently released new performance-based measures for O&G pipeline cybersecurity in Security Directive Pipeline 2021-020C (SD02C) dated July 27th, 2022. O&G owners and operators must segment IT/OT networks with secure air gaps that ensure operational readiness even if the IT system has been compromised. To comply with the new TSA directive it is essential to embed cyber defenses in OT/IT networks.

Cyber Defenses that Keep the Data and Fuel Flowing

A national O&G pipeline operator was struggling to provide real-time billing data and manage the data sharing at interconnection terminals. Now the company trusts Fend's one-way diodes to pull operational flow data from all key network nodes back to the Network Operations Center (NOC) while reducing OT network threat vectors. The client is able to integrate real-time operational data into the NOC while eliminating unrestricted communication between their OT and IT networks. The customer can utilize consequence-driven cyber informed engineering (CCE) to establish a 'digital twin' strategy. They safely replicate their data loggers onto the enterprise network, receiving real-time data while protecting the SCADA system with physical isolation.

Example: Safely Bridge OT and IT with the Power of Optical Isolation

O&G Pipeline Nodes   Fend Data Diode   IT Network   Real-time Analytics and Reporting
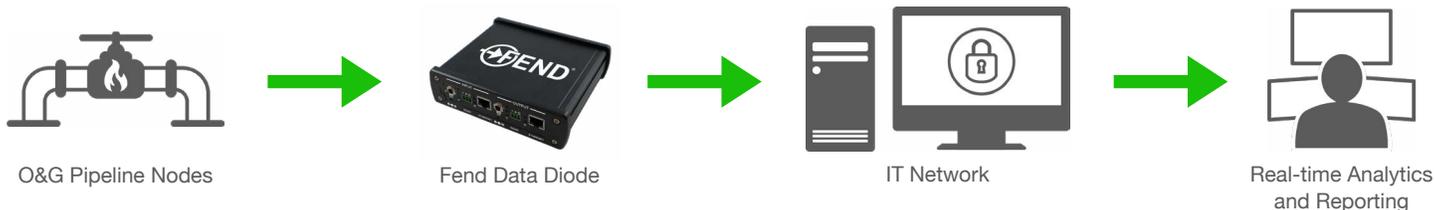
Securing Smarter O&G Infrastructure

For many years, one-way communication diodes (data diodes) have been trusted for critical applications like the protection of nuclear power plants. Data diodes physically block 100% of all inbound traffic and require no security patches or maintenance, offering the same level of security as a physical air gap for remote monitoring without the vulnerabilities. Fend's easy-to-deploy hardware brings data diode protection to gas pipelines and oil refineries at a fraction of the price of traditional solutions. Fend enables visibility across the rest of the value chain, allowing real-time analytics, flow-rate modeling and predictive maintenance while protecting operational networks and assets.

Learn about Fend's Data Diodes – Made in the USA

Learn more about the power of Fend's American-made data diodes and enterprise cloud technology. Get product specifications at www.fend.tech/products.

TSA Issues New Performance-based Measures for O&G Pipelines

TSA's latest Security Directive 2021-02C (SD02C) from July 2022 mandates that pipeline operational technology assets must be organized and IT/OT networks will be segmented, by taking into account criticality, consequence, and operational necessity - an ideal use-case for one-way communication (data) diodes. Read more at https://www.tsa.gov/sites/default/files/tsa_sd_pipeline-2021-02-july-21_2022.pdf

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