WorkSync
DISCOVER • ALIGN • CAPTURE

CASE STUDY · LEAK DETECTION AND MODELING

FOUNDER EXPERIENCE AND DELIVERED

A leak detection program that can prove its own number, and a capital plan that follows risk.

The pattern we bring to your system: calibrate the model first, choose detection against an uncertainty budget, and rank capital by risk. Proven across three pipeline operators and one gas utility.

0.5%

of flow within 24 hours
detection sensitivity, crude pipeline

$32MM

Moved
Cut

of capital redirected
$15MM of low value work cancelled

20 min

Hand
Auto

to build a hydraulic model, from 200 hours
Runs today in FlowSync, engineering estimate

THE CHALLENGE

Leak detection programs fail in two directions. Tune for sensitivity and the control room drowns in false alarms, so controllers stop trusting the system. Tune for quiet and the program cannot defend its own performance number to a regulator. Underneath both sits the same problem: without a



FlowSync, running today: a system model generated from the operator's own data.

WHAT WE DID

The pattern is the same across three operators and three asset classes. Build the hydraulic model first and keep it calibrated. Choose the detection method against an uncertainty budget from API RP 1149 and API RP 1130 rather than a vendor's brochure. Write the program document to API RP 1175, including who acts on an alarm and how performance is proven. Train the controllers on the hydraulics behind their own consoles, because detection is a human system too. Run it as one program across the control center, integrity management, hydraulics and SCADA. Then rank the segments by estimated undetected spill volume against probability and consequence, so the capital plan follows risk, not history. The pattern holds whether the fluid is crude, NGL, refined products or gas.

THE RESULT

On a crude oil pipeline, detection sensitivity was driven below 0.5% of flow within 24 hours. At a midstream pipeline operator, real-time hydraulic models covered its NGL, crude and refined products system, controllers were trained on them, and the risk ranking redirected $32MM of capital to higher priority work and cancelled $15MM of low value projects. For Pacific Northern Gas, one modeling backbone has run debottlenecking and capacity studies, station sizing and customer connections every year since 2022, on automated model generation that takes a build from 200 hours to 20 minutes, our engineer's estimate.

Tightening sensitivity alone is easy. Holding false alarms down while you do it takes engineering.

Start with a 2 to 4 week assessment. Fixed fee. You keep the number either way.

Founder experience: work led by a WorkSync founder in prior operator roles. Pacific Northern Gas is a WorkSync client.

Scan to reach us

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