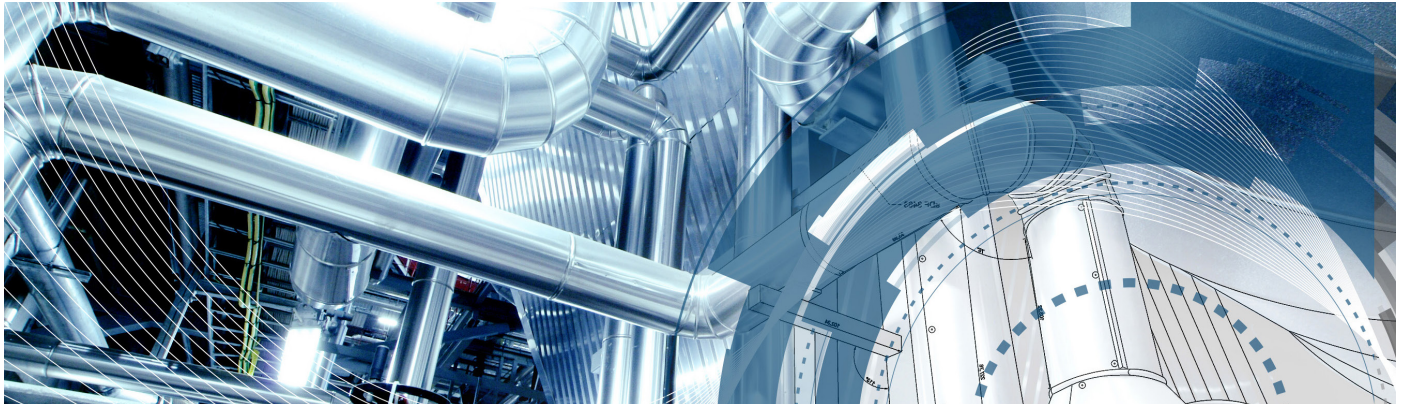


Cycle Isolation Monitoring

Valve Leakage Monitor (VLM) Desktop

**CURTISS -
WRIGHT**

Power & Process Products and Services



About

Curtiss-Wright is a global integrated company with a long tradition of providing state-of-the-art, reliable solutions through trusted customer relationships.

We provide analytical platforms and sensors to optimize the data needed to address plant issues. We are leaders in thermal performance software and services, equipment reliability solutions, valve condition monitoring, and advanced data analytics.

We further enhance our customer support through our Monitoring and Diagnostic Center, providing remote detailed evaluation of the condition of clients' assets.

Curtiss-Wright is committed to the reliability, safe operation, and improved performance of power plants worldwide.

Our experienced valve subject matter experts are available to troubleshoot valve issues and assist with repair plans.

Valve	Current Tailpipe Temp (°F)	Leakage (lbm/hr)	ΔMW (MW)	ΔHR (Btu/kWh)
MS Safety	245°	30,000	-4.68	256.92
CRH Safety	150°	6,416	-0.71	38.95
HP Heater 5 ES Safety to ATM	165°	1,414	-0.15	8.37
HP Heater 6 ES Safety to ATM	185°	1,141	-0.13	6.93
Total			-5.66	311.17

This chart illustrates the impact on generation and heat rate resulting from valve leak-by.

Find Lost Megawatts Now

Aging plants, deteriorating valve performance, and increased demand for electric power require careful attention to any potential loss of efficiency and generation. Often capturing lost MWs is the greatest return on investment, especially inside of the steam cycle. To find these lost MWs in the steam cycle, Curtiss-Wright has developed a unique and powerful Cycle Isolation product, Valve Leakage Monitor (VLM), to keep your plant operating at its peak performance.

Finding and correcting issues with leaking valves in power plants leads to:

- Improved plant efficiency
- Prevention of valve damage
- Increased generation
- Decreased fuel usage
- Decreased water production cost
- Decreased maintenance cost

What is Cycle Isolation?

Cycle Isolation is valve leakage losses that bypass the generation process. Leakage through these valves is one of the largest and often most overlooked issues in nuclear, fossil, and CCGT power plants. In some cases, leaking steam valves can result in more than 5 MWs of lost generation! These losses are compounded by the undetected valve leakage continuously damaging the valve, increasing the leak, and leading to additional losses in generation and increased heat rate.

By understanding and evaluating the valves' performance, we can balance MW losses against planned outages and determine maintenance scheduling that is most advantageous to the utility.

How does VLM Work?

Cycle Isolation monitoring and reporting is now available in a desktop version. Our product quickly detects cycle isolation issues and automatically estimates the leakage rate as well as generation and heat rate impacts for each leaking valve.

VLM uses downstream temperature information to generate leakage alerts. These temperatures can be entered manually from plant walk downs, or, if instrumentation is available, the data can be gathered and entered into VLM via tables.

VLM is unique in offering six different calculational methods to estimate valve leakages. This information is then used to prioritize maintenance and repair of valves.

VLM Desktop also has an optional feature that can be deployed to read in real-time information and automatically calculate and return the results to plant data historians and other data sources. With either option, VLM is a must-have for getting the most out of your power plant.

CONTACT INFORMATION:

1360 Whitewater Drive, Idaho Falls, ID, 83402 USA
famoscw@curtisswright.com | +1.208.497.3333

Power & Process
NUCLEAR.CURTISSWRIGHT.COM

PF - 067 - 11.2025R2 - ST - 55E - PO