

Cycle Isolation Monitoring

FAMOS Valve Leakage Monitor (VLM)

**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 you need 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 safe operation and improved performance and reliability 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, FAMOS 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 FAMOS VLM Work?

On-line Cycle Isolation monitoring and reporting is now an integral part of our FAMOS suite and PEPSE-RT thermal performance monitoring software. Combining real-time data and web browser displays, 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.

FAMOS 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 in real time. Additionally, tools are available to set up notification, alarms, and reports to be automatically delivered to users and recorded in the historian.

FAMOS VLM can be deployed as an upgrade to an existing FAMOS installation or stand-alone to interface with plant historians and other data sources. With either option, FAMOS VLM is a must-have for getting the most out of your power plant.

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