



NEW TECHNOLOGY

GEMS
GAS ENVIRONMENT MONITORING SYSTEM

GEMS



CONTINUOUSLY ON CALL

Fully configurable solutions for real-time continuous gas monitoring

Wherever safety is the top priority, SCI's Gas Environment Monitoring System (GEMS) stands ready to serve at all times. Designed and developed with the most stringent safety standards in mind, our modular solutions are highly customizable for monitoring gas presence in extreme safety-critical environments, including inside and outside containment in commercial nuclear power plants.



Designed For Safety

GEMS is an integrated platform of sensors, sensor processing controllers, data communications paths, data aggregation nodes and operator displays. Working in unison, the various modular units provide a steady stream of information to operators for real-time monitoring.

Fully customizable to project specifications, our system continuously monitors hydrogen, oxygen and steam levels, plus environmental information such as temperature and pressure, without the need for sampling systems, pumps, heat tracing or other unreliable and expensive support equipment. A graphical interface makes readouts easy to understand, keeping your plant running smoothly and safely at all times.

Complete Configurability

GEMS is fully configurable to each customer's unique needs. A typical setup includes Gas Monitoring Units (GMUs), GMU Controllers, Signal Processing Units (SPUs) and Display Units (DUs). For maximum configurability, SCI also offers optional Non-Containment GMUs and Universal Input Power Supplies.

Features/Benefits

- › Measurements made in-situ
- › Continuous, rapid response
- › Real-time risk monitoring:
 - › Deflagration, Detonation risk by location
 - › Risk trend
 - › Confirm success of mitigation actions
- › Real-time confirmation of:
 - › Pressure vessel damage
 - › Molten Core Concrete Interaction (MCCI)
 - › Spray and vent verification and success
 - › Hydrogen leakage from containment
- › Real-time condition monitoring of:
 - › Core and debris cooling
 - › Hydrogen recombiners
- › All sensed locations measured simultaneously
- › No removal of gas from containment
- › No moving parts (solenoids, valves, pumps, fans, motors)
- › Fast, fully automatic system start-up after station blackout
- › No frequent re-calibration requirements
 - › 2+ years
- › No frequent maintenance requirements
 - › 2-5 years
- › Tested against a wide range of poisons

For More Information, Email Us at DAS@sci.com
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