



SAFEGUARD SENTINEL

# SafeGuard Sentinel Innovative Technology to Visualize Risk in Real Time

SafeGuard Sentinel is innovative software that reveals danger in the plant in real time. SafeGuard Sentinel continuously measures, monitors and alerts operations and management to process safety risks and delivers contingency plans that can be executed immediately.

By presenting real-time risk information and expert knowledge to make effective operational decisions, SafeGuard Sentinel helps prevent incidents, safety infractions and unexpected outages.

## SAFEGUARD SENTINEL HELPS PERSONNEL EASILY:

- Identify sources of increased risk
- Understand the impact
- Respond to the problem
- Prevent outages, environmental damage and loss of production
- Save lives and prevent injuries

## MAKE SAFETY DATA ACTIONABLE

SafeGuard Sentinel extends the knowledge gained during the design phase of a plant to intelligently integrate control systems and gather an all-inclusive database of information from multiple business systems.

SafeGuard Sentinel uses this information to provide situational analysis and contingency plans, which enable you to make informed decisions that will reduce outages, minimize environmental impacts and save lives.

**SAFEGUARD SENTINEL PROVIDES A UNIQUE SAFETY PERSPECTIVE OF INFORMATION FROM:**

- Control Systems
- Safety Instrumented Systems
- Maintenance Systems
- Training Records
- Electronic Operator Logbooks
- Hazard and Operability (HAZOP) Studies
- Layer of Protection Analysis (LOPA)

## VISUALIZE RISK USING BOWTIES



Each Bowtie converts pages of HAZOP data into a single, powerful, easy to understand, graphical visualization, which helps operators understand the full scope of each potential risk, and see the impact of each safeguard.

**BOWTIES CONTAIN THE FOLLOWING INFORMATION:**

- Hazardous Event
- Root Causes
- Consequences
- Preventative Safeguards
- Mitigative Safeguards

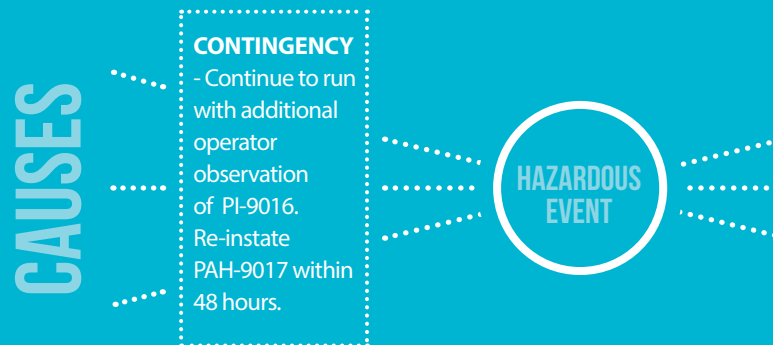
## SAFEGUARD SENTINEL SHOWS THE CONDITION OF EACH SAFEGUARD AND THE IMPACT OF A SAFEGUARD FAILURE.

## KNOWLEDGE CAPTURE & CONTINGENCY PLANS

SafeGuard Sentinel captures risk events and operator actions for immediate visualization and future analysis.



In the event of a safeguard failure, SafeGuard Sentinel will immediately provide the operator with the appropriate contingency plan. All contingencies put into play are visualized on the Bowtie.



## BENCHMARK KEY PERFORMANCE INDICATORS OF RISK

By comparing the real-time measured risk level with the designed level of risk, SafeGuard Sentinel provides quantitative metrics showing changes in risk over time.

Management can use SafeGuard Sentinel to see how process risk is changing over time and benchmark safety performance across process units or entire plants.

**LEADING INDICATORS OF SAFETY PERFORMANCE CHANGE HOW MANAGEMENT DECISIONS ARE MADE.**



## EXPOSE HIDDEN RISK

SafeGuard Sentinel shows the interaction between safeguards and the potential combined risk impact of multiple safeguard failures.

Drawing upon information from sources such as maintenance and training records, SafeGuard Sentinel reveals risk that would normally be invisible.

# Hidden risk causes visible disasters.

## ABOUT ACM

ACM Facility Safety is a thought leader in Risk Assessment Services, Training and Process Safety Software. We have helped the world's largest operating and engineering companies improve facility uptime, manage process risk and comply with international safety standards.



**Making the World  
a Safer Place**

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