SIF Manager

Manage safety instrumented functions with confidence.

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SIF Manager provides a single window to the health and status of your safety instrumented functions (SIFs) so you know that the safeguards that you rely on to keep you safe are working effectively and will operate when needed.

Risk can never be eliminated but it can be better managed

Major incidents rarely result from a single cause, but rather by multiple failures that coincide and collectively result in an exceptional event with severe consequences. Using a systematic and dynamic risk management approach that demonstrates the integrity of the SIFs, in real time, to assure that they are working effectively and will operate when needed, reduces the likelihood and limits the effects of such incidents.

A unique step in the management of SIFs

The powerful SIF Manager application provides a single window of the health and status of the SIFs, identifying potential vulnerabilities and impact of the SIFs' performance. It provides leading indication of potential safety issues, as well as providing context and situational awareness of the risks being managed.

SIF Manager eliminates the complicated, time-consuming, often error-prone data collection and manual handling of SIF-related information. SIF Manager constantly monitors the SIF performance in real time, validating it against the intended design. When SIFs are not performing as designed SIF Manager automatically sends emails alerting personnel to degradation in SIF performance.

SIF Manager provides dedicated key performance indicators (KPIs) and dashboards for SIF performance, demand rates, and bypasses.

SIF Manager captures every trip on every SIF automatically. SIF Manager produces comprehensive trip reports including a full sequence of events for every trip event as well as detailed trip reporting including SIF response times, valve response times, and full sequence of events for every SIF component. A complete audit trail for every SIF under management is also provided.

Key benefits

SIF Manager helps you achieve compliance, improve productivity, and ensure safer plant operation and performance. Benefits include:

- Lowers operational risk

- Supports compliance to international safety standards such as IEC 61511 and ISA 84.01

- Increases operational efficiency

- Maximizes safe operations

- Reduces the time, effort, and complexity of managing SIF-related information

- Improves productivity

+5%

Companies that practiced good process safety reported a 5% increase in productivity.*

-3%

Companies that practiced good process safety reported a 3% reduction in production costs.*

-5%

Companies that practiced good process safety reported a 5% reduction in maintenance costs.*

* Center for Chemical Process Safety — The Business case for process safety

- SIF information becomes more relevant and easier to understand

- Easier to determine overall risk levels and tolerable risk

- Supports compliance to international safety standards such as IEC 61511 and ISA 84.01

- Scalable — can grow as you go

- Lowers operational risk

- Maximizes return on capital utilization

- Improves productivity

- Maximizes business continuity and avoids unnecessary business interruption

- Increases operational efficiency

- Maximizes safe operations

- Reduces the likelihood of human error

- Reduces the time, effort, and complexity of managing SIF-related information

Achieve compliance, improve productivity, and help ensure safe plant performance.

Dynamic SIF management

SIFs are the specific safety loops implemented by your safety instrumented system (SIS), which is intended to automatically achieve or maintain a safe state for the process with respect to a specific hazardous event and prevent the occurrence of a significant incident.

Operating conditions will change over the lifetime of your plant and so your initial SIF design premise may no longer be valid. The SIF is the last automated layer of protection and because no SIF is perfect for all of the time, holes in that layer of protection will "appear." Even though each "hole" may be temporary (for example a bypass may be applied, maintenance or testing may be overdue), the aim should be to identify holes and then make them as small and short lived as possible, recognizing that they are continually changing (equipment deterioration, temporary bypasses, operational changes, maintenance lapses, compliance to procedures, personnel and team competencies).

Leverage existing information and systems

SIF Manager incorporates existing risk information about the hazards and risks being managed, (for example from the HAZOP, LOPA, SRS, etc.) together with information from the maintenance management system and information from the business systems, such as those used for planning, scheduling, and maintenance, into a single window.

SIF Manager compares the actual SIF status and performance against the intended design criteria, alerting personnel to any defects or degradation in the SIF performance.

Scalable to meet current and future needs

SIF Manager can be applied to any size installation, from a few SIFs in a single SIS, to thousands of SIFs across an entire site. Powerful networking and global database structure mean SIF Manager can be expanded as your operational needs grow.

Operators are required to show evidence of SIF validation in order to demonstrate compliance to the standards and ensure that safety integrity of the plant does not degrade over time.

Quick and easy implementation

Our team of certified safety engineers work with you to integrate the design data, establish the rules, configure the dashboards, and email alerts, etc. to ensure that the SIF Manager system meets your specific needs.

Persistent vigilance

SIF Manager is always on and always alert. SIF Manager provides constant vigilance of the SIF performance, making any "holes" visible to all concerned parties, such as operations, maintenance, safety engineering, supervisors, and managers.

SIF Manager ensures maximum uptime and plant productivity. It evaluates noncompliance before trouble can strike, eliminating unnecessary maintenance spend without increasing operational risk.

Greater context for all team members

SIF Manager takes the guesswork and complexity out of interpreting SIF information, making it visible, clear, and easy to understand by all persons.

Plant managers see high-level dashboards showing their entire process in one easy-to-understand view.

Maintenance managers do not need to check every loop every day; they get reports-by-exception that pinpoint high-impact problems for immediate, proactive action.

The **safety leadership team** has clear visibility of plant safety and integrity and is armed with dependable and auditable information to make the right decisions at the right time.

Industries served

Oil & Gas

Exploration and production

Refining

Chemical

Pipelines and distribution

Energy and power generation

Streamline and strengthen your plant safety processes with SIF Manager.

The new safety loop management solution is the first and only real-time automated solution for monitoring and validating SIF performance over the life of the plant.

Demand rate and bypass KPI dashboards

SIF Manager quickly determines critical SIFs to focus on at the click of a button. SIF Manager constantly updates a dynamic dashboard of critical SIF KPIs, providing a consolidated snapshot of overall SIF and plant safety performance.

SIF Manager demand dashboards:

- Track SIF demand rate and validation against design criteria

- Highlight most critical out of compliance SIFs by demand rate

- Show where the current demand rate sits with respect to "as designed" demand rate (bar graph and cursor)

- Views can be filtered for plant area/unit, SIL, and historical time basis for more informed display/analysis.

SIF Manager bypass dashboards detail protective functions not in operation:

- Highlight the time spent in bypass for the most critical SIFs out of compliance

- Bypass count

- Total percentage of time the SIF has been in bypass compared to normal operation

Bypass monitoring

SIF Manager provides a consolidated interface for critical bypass monitoring. Users can quickly see all SIFs that are in bypass and then drill down to the tag level and see in real time which SIS sensors are in bypass and which have exceeded their allowable time in bypass.

Best practice safety standards, such as IEC 61508, IEC 61511, and ISA 84.01, require plant operators to validate safety loop performance periodically against original design criteria.

Automatic email alerts

Each SIF can be configured with an automated alert setting and action rule set. This action set includes automated emails to appropriate personnel to ensure that covert risks do not remain hidden, and that the appropriate person within the safety leadership team has clear visibility to critical issues even if he or she does not have access to the SIF Manager dashboards.

Automatic trip reporting

SIF Manager captures every trip on every SIF automatically. Each trip will create a unique trip event and identifier that is logged in the system and captured in the system audit trail. The status and time stamp of all SIF components involved in the trip are recorded in an auto-generated SIF trip report.

The trip report allows fast trip analysis as well as documented evidence of SIF performance on demand. Where this performance is deemed to be within design criteria, the trip report can also be used to take "Proof Test Credit" for that SIF, allowing the user to extend the next proof test interval and/or eliminating the need for "time-based" or "scheduled" proof testing.

Automatic sequence of event trip reporting

SIF Manager generates a pre- and post-trip historical trend view, allowing the operator to view every SIF component for a (configurable) time period, both pre- and post-trip.

Automatic trend of each unique SIF trip

SIF Manager generates a trip trend for every uniquely identified trip. Trends include both pre- and post-trip duration. Every SIF component is shown (and selectable) as an individual trace. The system also allows other tags (not predefined or associated with the trip) to be displayed on the same trend for analysis.