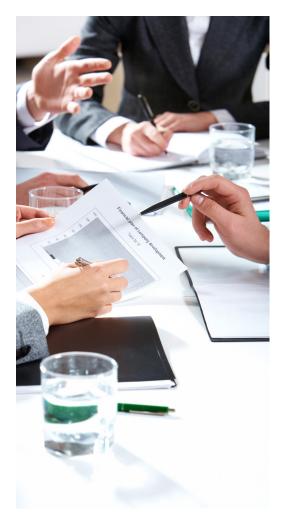
RISK MANAGEMENT



- Promotes robust discussion through the process of risk identification, analysis and evaluation.
- Safety, Regulatory, Reliability and Efficiency issues can be ranked by risk level.
- Allows highest risks to be addressed during planned outages.
- Risk Assessments provide input to Capital and O&M budgets.

Risk management is the identification and assessment of significant risks and the implementation of suitable responses. Risk may be a driver of strategic decisions, a cause of uncertainty in an organization, or intrinsically embedded in the fabric of the organization. Managing risk will help distinguish high-probability, low-consequence outcomes from low-probability, high consequence outcomes and may identify areas where investment is warranted to reduce uncertainty.

Recognizing that the cumulative wisdom provided by experienced personnel is essential for integrating technical and nontechnical factors to produce sound decisions, the PlantView Risk module uses a Risk Assessment Grid that can be viewed across the enterprise to capture, assess and prioritize a list of risks. A Risk Assessment Grid presents risks graphically, allowing users to visualize the consequence(s) of an issue and the likely (probability) time frame of their occurrence. When there are limited risks, it supports ranking risks against each other to determine their relative prioritization. When there are too many risks to provide the same level of attention, it supports aggregating them into groups to focus on those requiring urgent remediation. The use of red, yellow, cyan and green colored cells within the Risk Assessment Grid reflects the broad classification of risks into high, moderate, low and very low priority.

Benefits

- Establishes a dynamic system where the significant risks faced by the organization are easily viewed, communicated and updated across the enterprise.
- Promotes robust discussion through the process of risk identification, risk analysis and risk evaluation.
- Provides consistency for prioritizing risks.
- Assists with business and outage planning.
- Focuses decision makers on the highest priority risks.
- Facilitates applying resources to the highest priority risks.
- Presents complex risk data in a concise visual fashion.
- Through transparency, can affect the likelihood and consequences of risks materializing.
- Facilitates better informed strategic decisions.
- Helps new management understand facility specific risks.

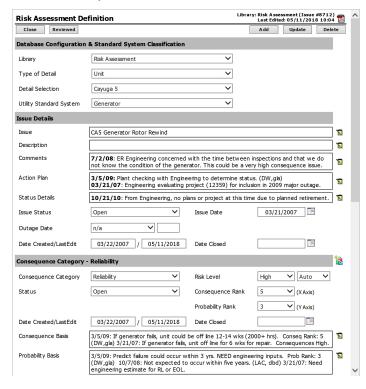


Features

- Stores all information in a centralized, structured Oracle database.
- Provides an easy-to-use template for recording appropriate information about each risk.
- Provides a Risk Assessment Grid to visualize all identified risks.
- Considers multiple categories of consequence and/or estimates of likelihood to provide the most comprehensive picture of risk.
- Assigns risk to consequence categories such as Safety, Regulatory, Reliability, Cost, Efficiency.
- Displays risk issues filtered by category (or other attributes) to identify similar risks across the enterprise.
- Facilitates creating risk issues from multiple PlantView modules: Predictive Maintenance, Event Reporting, Corrective Actions, Engineering Inspections and Operations Logbooks.

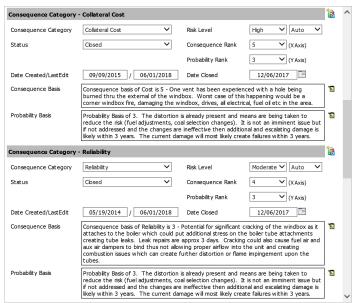
Risk In Action

Risk identification establishes the exposure of the organization to risk and uncertainty. In PlantView, the identification process begins at a high level by creating Risk Issues, which include information such as the issue date, issue summary and a detailed description.

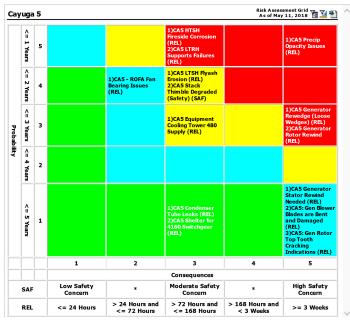


This information might be entered directly via the Risk Assessment form or provided via another module in PlantView such as Predictive Maintenance, Event Reports, Corrective Actions, Engineering Inspections or Logbooks.

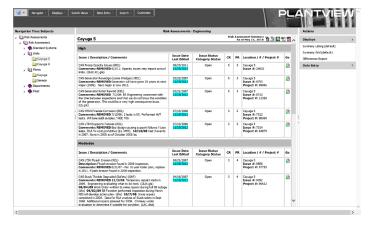
Once identification has been completed, risk analysis involves a detailed consideration of risk sources, consequences, likelihood, events, scenarios, controls and their effectiveness. A subject matter expert (SME) typically performs this evaluation. The SME's goal is to develop and document not the worst-case scenarios, but the most credible (or expected) scenarios. The SME may assign the risk to one or more consequence categories as an event can have multiple causes and consequences and can affect multiple objectives.



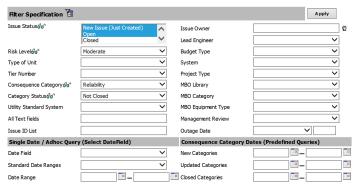
For example, a single Risk Issue could be assigned to Collateral Cost and Reliability Consequence categories -- each with a unique likelihood of occurrence. Every category is tracked through to completion by PlantView and the Risk Issue cannot be closed until all the associated categories have been resolved.



Risk Issues can be summarized at various organization levels in either a *summary list* or a *5x5 grid* representing levels of risk (high, moderate, low and very low) in a plot of consequence vs. probability.

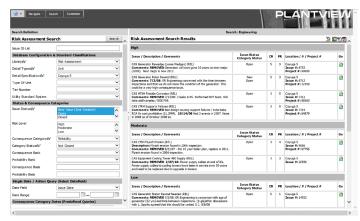


Both displays contain a comprehensive filter that includes fields such as: Issue Status, Risk Level, Consequence Category, Category Status, Issue Owner, System and multiple date fields.



When risk issues are assigned to multiple consequence categories, a "worst case" option displays the overall risk issue based on an equivalent numerical position in the matrix. Other options allow filtering to a single category, or all categories. Since Consequence Categories maintain a status independent of the overall risk issue status, higher priority consequences can be addressed before lower priority consequences. The filter supports reviewing new, updated and closed categories within a specific time frame.

The Search feature allows open/closed risk issues and Consequence Categories to be searched across the enterprise or across similar risks that have already been remedied. All search, listings and grids can be exported to Excel or PDF reports.



Risk Grids are an invaluable tool for organizations seeking a fast, effective and practical risk assessment process. They support the business process of assigning a consequence and probability rank to open issues to determine a prioritized list of equipment concerns. Although subjective decision making will always be part of the risk assessment process, the synergy of combining risk with predictive maintenance and equipment monitoring analysis into a single integrated system will undoubtedly yield benefits of improved reliability.



The PlantView® Suite

PlantView Logbooks is a part of a suite of integrated modules supporting the maintenance, operation, training and performance knowledge management processes that help facilities sustain optimal reliability, efficiency and safety. Each module automates information entry, storage, management and reporting for numerous facility functions. The software transforms internal work processes, enabling users to move efficiently from managing information to understanding the implications of that information, and ultimately to action. The PlantView Suite is divided into four disciplines: Maintenance, Operations, Continuous Improvement and Training. It consists of the following modules:

following modules:	
	Maintenance
Predictive Maintenance	Facilitates condition-based maintenance by collecting and storing diagnostic technology results, and facilitating the analysis of multiple technologies into an overall assessment of the equipment.
Maintenance Basis Optimization	By combining rigorous Reliability Centered Maintenance (RCM) analysis with pre-defined templates and a flexible approach to determining criticality, MBO helps develop a sound maintenance basis that balances maintenance tasks and equipment reliability.
Reports Library	Serves as a basic document repository targeted for major equipment maintained on an annual basis. As reports are received from engineering teams, they are assigned a status and uploaded to PlantView.
Engineering Inspections	Standardizes the inspection of components and their associated evaluation criteria. Information is summarized in a grid representing the most recent evaluation that has been performed.
Operations	
Operations Logbooks	Replaces traditional paper logs, text documents, spreadsheets and homegrown portal solutions with a dedicated operator logs system. Assists in tracking and managing any problem from initial diagnosis all the way through remediation.
Risk Assessment	Supports Risk Informed Decision Making by using a 5x5 Risk Matrix that can be viewed across the enterprise to assess and prioritize risks.
Reliability Index Module	Replaces manual spreadsheets and monthly reports with a continuously updating Equipment Reliability Index that can provide a snapshot on a daily, weekly or monthly basis.
System Health	Keeps a running log of issues and concerns for a System or Program. Within a particular instance of a report, the responsible individual identifies issues, snapshots metrics and assigns action items.
	Continuous Improvement
Event Reports	When an event occurs at Site "A," other sites are notified through an event assessment providing a mechanism where the event is reviewed and it is determined if a similar event could happen at their site.
Corrective Actions	Documents how a particular problem/issue is corrected at a site. Once a Corrective Action Report (CAR) is created, it is assigned to a Champion and Team Leader until a solution is determined.
Self-Assessments	An Excellence Grid divides business objectives into categories, elements and sub-elements. Questions are defined with each, and an assessment is completed by multiple users. Management can use the results to focus on areas requiring improvement.
Observations	Observes activities to identify trends in safety, human performance and plant operations to prevent injuries and improve reliability.
	Training
Automated Training Manager	Creates training courses consisting of Lessons and Elements; each element has associated content, questions and skills. Profiles provide trainees with a cross-section of content focused on their job description.

The PlantView® Suite can be installed in your own IT environment or externally hosted. For additional information, please e-mail info@power-vision.com.

