RISKMAN®

There are many PSA software packages out there, but there is only one for the serious PSA professional: RISKMAN®. For the PSA analyst who needs accurate answers, makes risk-informed decisions, and places safety above all else. RISKMAN® meets all the requirements of Regulatory Guide 1.200.

Unlike other PSA software, RISKMAN® incorporates the four major steps of PSA analysis into one package: data analysis, system analysis, natural hazard analysis, and event tree analysis. It makes use of modern mathematical techniques for avoiding approximations. However, when approximations must be done, the exact value of the error is calculated ... no more guessing how accurate your results are.

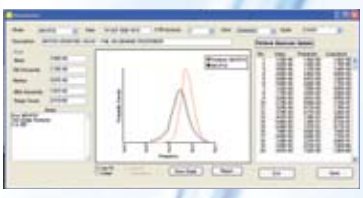
And RISKMAN® does your housekeeping for you. Underneath the analysis modules, RISKMAN® keeps track of your different risk models, allows you to compare and contrast different assumptions, to create "what if" scenarios, and to present results in a professional way for review by management and regulatory agencies.

Running on a PC, with standard WINDOWS® interfaces, it is versatile enough to be used in any industry. RISKMAN® has been used to perform large and comprehensive probabilistic safety assessments for the aerospace, nuclear power, chemical process, offshore, and other extreme risk industries. Maintenance, support, and development of RISKMAN® is guided by the RTG, the RISKMAN® Technology Group, a users' group now in its 20th year of existence.

How is RISKMAN® different?

RISKMAN® truly embodies the Scenario Approach to risk: what can go wrong, how likely is it, what are the consequences?

- The data analysis module is an integrated package for Bayesian data analysis and data management. Allows creation of 6 different types of distributions, as well as custom histograms for data which do not fit standard distributions.



- Individual sequence representations display both failed and successful systems and identify dependencies between systems. This information is lost using other PSA tools.

- RISKMAN® uses BDD, binary decision diagrams, quantification. Used in Fault Tree calculations, BDDs account exactly for NOT logic and use no approximations or frequency truncation. Standard minimal cutset algorithms cannot achieve this.

- RISKMAN® has convenient automated features for adding and modifying common cause groups to system fault trees.

- Monte Carlo sampling allows uncertainties from data to be propogated through the entire PSA model to the final sequences.

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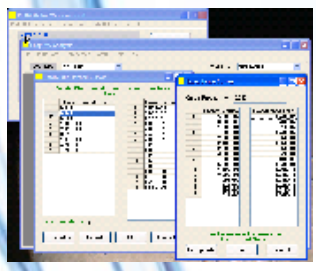
- The fragility module evaluates hazard data (seismic, winds, etc) and calculates initiating events as well as fragilities of equipment and structures. This module is unique to RISKMAN®.



- Contributions from initiator fault trees are calculated directly as part of the basic event and component importance measures.

- You can demonstrate convergence of truncated sequence frequency results. Competing software cannot keep track of the total frequency discarded during quantification nor use such low truncation cutoffs.

- RISKMAN® computes expected risk (i.e. consequence weighted end states) and importance measures with respect to expected risk; e.g. for BOP modeling of plant unavailability and capacity factor analysis.

- A "Red Button" feature automates and documents baseline system model changes and results for sensitivity studies.

- The MSCAL feature developed for STP permits hundreds of plant maintenance states to be calculated in a batch to populate a plant configuration look-up table.

- A "RISKMAN® MINI MONITOR" allows the risk analyst to simulate a series of maintenance actions where components are taken out of service.

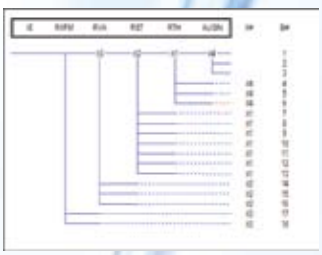
- The RISKMAN® Viewer enables reviewers to conveniently and completely examine a model and its data, without needing a full version of the software, and for the Nuclear Professional...

"STP has been successful implementing many risk management applications and a big part of our success is because of what RISKMAN® can do."
Rick Grantom, Manager, South Texas Project

"RISKMAN® is very flexible and easy to use for Top-down modeling and different partsof the PSA model are easily integrated. It is easily adapted for different applications such as external events, security/vulnerability issues...."
Jens-Uwe-Klügel, PSA Manager at Kernkraftwerk Gösgen, Switzerland

- Simple core damage sequence models for internal events can be easily extended for external events (e.g. plant fires and earthquakes) or for the response of the reactor containment to accidents; (Level 2 analyses).

- Multiple states of a top event make RISKMAN® especially well suited for modeling low power and shutdown events that involve many plant configurations and long periods of maintenance, areas where the rare event approximation breaks down.



- Nuclear plant PSA models developed in RISKMAN® have been reviewed in detail and accepted by the USNRC and its subcontractors. They have also been reviewed and requantified by regulators in Switzerland (HSK) and their subcontractors confirming the RISKMAN® results.

- Sequences may be conveniently grouped by user-specified function (e.g. Large Early Release, ATWS sequences, RCP seal LOCA sequences), and frequency and importance measures are then computed for each sequence group.

- RISKMAN® has features to interface with Microsoft® Excel and other PSA software tools; e.g. to import and export fault trees or cutsets.

RISKMAN® for Windows 11.1 has recently been released in both English and Japanese. Version 12.0 is scheduled for release in early 2009.

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