

Risk Management – The Integrated Approach

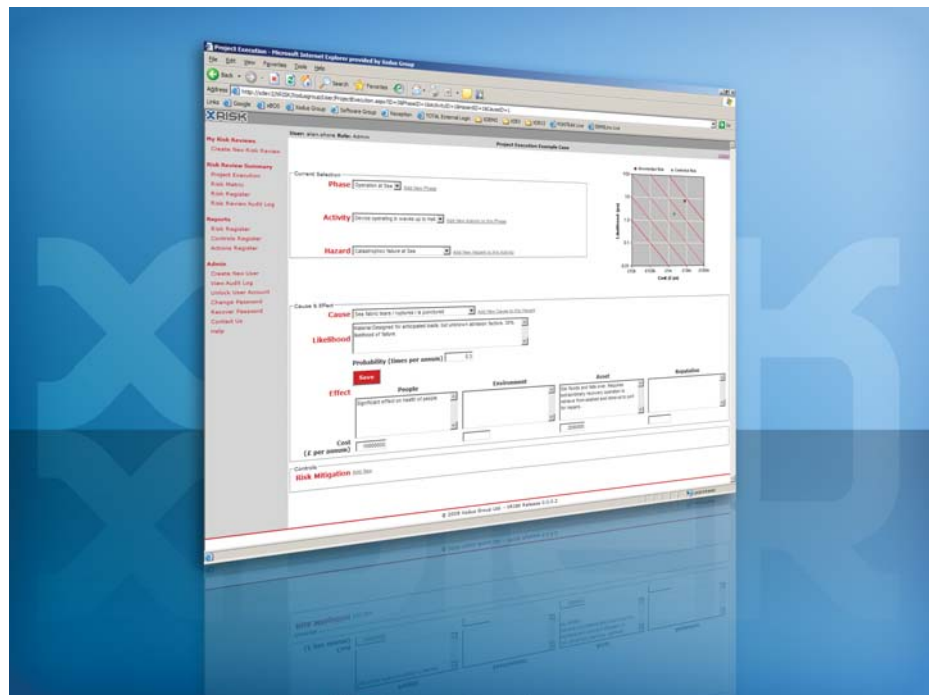
XRISK is a web-based risk management tool developed by the Technical Safety & Risk Division of the Xodus Group.

XRISK collates and integrates data relating to risk assessments into a central risk register. It is used to generate controls, assign and track actions and create an auditable record. A powerful risk graph plots managed and unmanaged risks in terms of likelihood versus severity and displays the cost implications.

XRISK is characterised by clear, graphic visualisation of risk elements. Users with secure access to the system can set e-mail alerts, access and control an action register, and can also generate reports based on a wide variety of criteria. XRISK supports several different types of risk assessment process. Of particular value to renewable energy specialists will be the conceptual HAZID and project execution functions.

XRISK as a project management tool

Project and HSEQ engineers and managers will be especially interested in XRISK. To deliver a successful project outcome, all risks need to be assessed and managed. Traditional risk management techniques, where actions arising from risk reviews are captured in individual documents and spreadsheets and then shared by e-mail, are slow and inefficient.



Using a simple, browser-based interface, XRISK enables project managers to build clear and, above all, auditable risk management plans, enabling actions to be assigned, tracked and managed. With user-customisable lists of standardised risk controls, XRISK eliminates the need to re-invent control strategies. While XRISK allows managers to describe risks in purely qualitative terms, the tool also includes cost/benefit

analysis features based on relevant quantitative data (for example, probability of occurrence versus potential cost of losses). These figures can be used to calculate total risk exposure. The simple, clean display offers managers a clear, easy-to-understand overview of the status of individual risk types and overall risk exposure. Simple visual cues indicate the degree of specific exposure, or the extent to which a given risk has been mitigated.

The XRISK tool can output reports on:

- › Uncontrolled risk exposure (as a ranked list of uncontrolled risks)
- › Controlled risks (ranked list of residual risks)
- › Critical controls (as a ranked list)
- › Cost/benefit analysis of controls
- › Multi-risk evaluations

- › Further actions that could be taken to reduce risk
- › Further research requirements (to define risks more fully) and can also produce Boston Matrix reports indicating level of risk versus level of manageability, for purposes of management reporting.

XRISK in detail

At the core of the XRISK tool is the Risk Register, a database of all identified risks and their respective controls. Risks for projects are identified by project execution step, while for operations, risks are presented by item of equipment and operating activity.

Each risk element is assigned its own mini-risk assessment, showing the scope of uncontrolled risk, a cause and effects analysis (ranging from failure modes and effects analysis to bow-tie analysis for more complex scenarios), along with possible preventive and control measures.

The cost of controls can be used as the basis for an ALARP analysis, so that controls can be selected on the basis of a cost/benefit analysis. Any residual risk is also shown, along with an assessment of justifiable contingency measures. These risk assessments are often based on multiple factors with multiple consequences. A risk scenario can have safety, environmental and availability implications, and all these exposures must be considered in an integrated, coordinated manner.

Because XRISK is, at heart, a database management system, each control can be switched on or off allowing reviewers to assess their impact immediately. This provides useful decision-making support in the event of performance degradation or complete breakdowns. The database back-end also means the system can be tailored to individual customer requirements.

Another advantage is that many key fields can be populated relatively easily, giving managers and engineers more time to focus on areas where risk identification is not as complete (such as environmental and availability elements), or where risk assessments are lacking (often the case for controls optimisation or ALARP evaluations). Xodus has designed the database as a live tool, which steadily improves as knowledge grows. The more accurately risks are categorised and controlled, the easier it is to focus on less clearly defined elements.

Detailed view showing cause and effect, risk mitigation prevention, control and recovery measures.

Xodus risk graph.

XRISK in action

Hosted by Xodus Group, the XRISK tool helps Xodus clients to manage their own risk registers on a project related and strategic basis. With support for clients' own risk matrices and internal management roles, the clarity and accessibility of XRISK is set to revolutionise efficient risk management.