

ENVIRONMENTAL

EPIQSM

QUANTIFYING CRITICAL ENVIRONMENTAL RISKS

Company reputations rise and fall on their environmental performance and risk management record. In today's world, management cannot hide from environmental liability. Society, investors, stakeholders and the SEC demand transparent disclosure and responsible environmental risk management.

How does a risk manager evaluate the company's real exposure and preserve and enhance shareholder value? How does a risk manager develop an environmental risk management program that affords optimal protection at the most competitive cost?

The first step is to review the corporation's environmental liability portfolio, which will reveal any material gaps in liability identification, valuation or disclosure. Ideally, this review will include a credible measurement of risk. The most critical environmental risks, however, are inevitably low frequency/high severity exposures, which typically have insufficient historic loss data for standard predictive modeling techniques. Meeting the problem head-on, Willis has developed an innovative, proprietary process that will generate a credible and realistic loss

distribution and do it with unprecedented speed. This process is termed EPIQ (Environmental Prospective Identification and Quantification).

EPIQ PROCESS COMPONENTS

- **Workshop-based.** The core element of data development occurs in a facilitated workshop session that is fluid and dynamic to participants but actually flows within a very structured framework.
- **Cross Functional Team.** Workshop participants are identified during discussions between Willis and the client project sponsor. The objective is to build a team of individuals who can most knowledgably speak to the most plausible future loss scenarios and efficacy of existing controls. Depending on the risk characteristics, this may include involving expertise from outside the client organization.
- **Data Collection.** All data captured in the process is consensus driven and the process assures that output is based on the most reliable and thoughtful input possible. This is accomplished at an

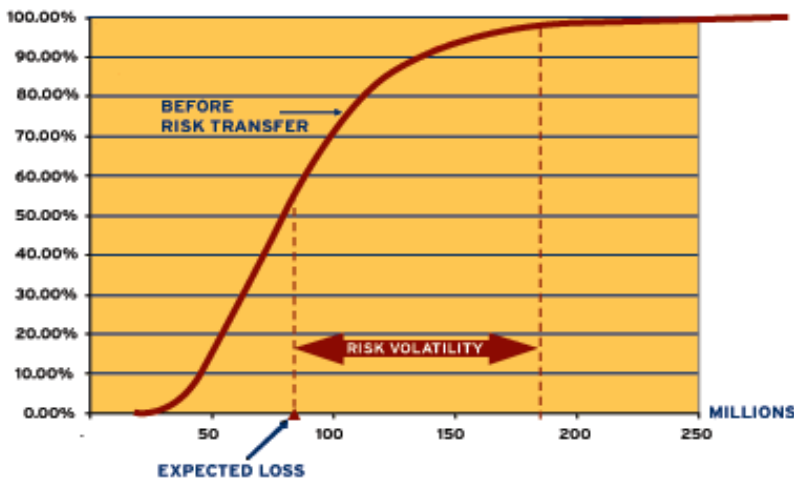
The Willis logo is displayed in white text on a dark blue rectangular background. The letters are in a clean, sans-serif font. The logo is positioned in the bottom right corner of the page, which has a yellow background.

accelerated pace. Recognizing that workshop participants have limited time outside of their day-to-day responsibilities, we have designed the process to minimize time demands. Typically, the workshop is completed in less than a day.

- **Risk Analytics.** Perhaps the most significant feature built into EPIQ is the analytic tool that processes the workshop input. As risk scenarios are identified, articulated and assessed by group agreement, our analytic tool captures the information to develop data points that generate a credible loss distribution, which is displayed at the conclusion of the session.

Post-workshop, this first-cut loss distribution is integrated with all relevant historic, industry and public domain loss data to ensure the most comprehensive input. Finally, our quantitative specialists process the loss distribution curve through simulation to generate a refined and robust quantification of the environmental risks facing the organization.

Once the risk has been quantified, our clients are able to identify the



expected (average) loss, which is determined by the mean of the curve. This approximates the amount of capital that should be reserved on an annual basis if the risk is to be self-insured. Our clients are also able to project the size of large loss events at different confidence levels (e.g., 1-in-20-year event, 1-in-100-year event, etc.).

EPIQ output can also be used to objectively identify the most efficient risk financing structure by calculating the range and cost of risk volatility retained under different limit and retention combinations. Using another proprietary, analytic process called Comprehensive Cost of Risk (CCoRSM), Willis can help

clients design the optimal insurance program that best matches their cost objectives and critical coverage requirements. The starting point for CCoR is the risk quantification provided by EPIQ – specifically the loss distribution curve, which represents the uninsured risk.

Once the uninsured curve is established, our quantitative specialists overlay different combinations of premium, limit and retention to measure the value of each insurance program. Value is objectively determined by a metric that captures premium, expected loss and the cost of volatility retained on the risk. This calculation also takes into consideration a client’s cost of capital. Each insurance program that is modeled against the uninsured curve is measured and whichever program delivers the highest value in terms of reducing the cost of risk represents the most efficient combination of premium, limit and retention for that risk.

In summary, EPIQ enables our clients to fundamentally shift their understanding of critical environmental risks from a purely subjective assessment to credible, analytical measurement. This measurement can form the basis for more informed risk management decisions.

CONTACT

For further information on EPIQ, as well as the full spectrum of Willis’ Environmental Practice and Risk Analysis capabilities, please visit www.willis.com or contact **Mike Balmer** at 617 351 7530, michael.balmer@willis.com.