

# University Risk Control - Starts with Risk Assessment

*\*by Keith Shakespeare*

## EDITORS NOTE:

We have had discussions with member regarding the implementation of FM recommendations and how to prioritize them.

FM provides information on pre and post implementation loss exposure values that may be helpful. We are republishing an article from our July/August 1993 Newsletter that may also assist in prioritizing loss control measures.

## What's inside

- **Strathcone-Tweedsmuir School Avalanche Fatality Report**
- **Date to Mark on Your Calendar**

*\* Keith Shakespeare is the Chief Operating Officer at Canadian University Reciprocal Insurance Exchange*

This article provides an outline to identify risks that are significant to any institution. Once, these significant risks have been identified based on this structured approach plans can be developed to address these risks with some degree of confidence.

This process involves identifying what can go wrong, and what, if anything can be done about them..

Many identified risks will be consciously ignored or tolerated, (as it does not make economic sense to eliminate or reduce every risk exposure identified). While risk has many definitions, for the purpose of this discussion, risk is defined as the compound cost estimate of loss frequency, loss severity (including public perception of harm), and risk control measures.

Risk is everywhere and before any planning is undertaken, risk must be identified and evaluated. It is not sufficient just to have a laundry list of risks - no institution can afford to control all its risks. In addition, if the list is a long one and lacks some form of evaluation it is likely that only the easy risks will be addressed or that nothing is done at all.

The evaluation of the identified risks will determine their significance to any operation and to optimize the control of risks - to address those of greatest significance that are within financial ability to control. Therefore, a key part of this evaluation process includes the determination of the costs of controlling risks.

Risk assessment techniques are imperfect and it is difficult to answer such questions as what will be the amount of losses next year. This also makes it difficult to measure on a cost/benefit basis the value of loss reduction or loss elimination strategies.

Without a cost/benefit analysis the probability of obtaining funding to undertake loss control activities is low. Unfortunately this cost/benefit calculation is often made after the loss occurs by forces beyond management's control, such as public opinion or the courts.

While it may not be too difficult to quantify the potential amount of a catastrophic loss it is much more difficult to assess the probability of such an event happening - but one has to start somewhere.

Actuarial techniques can be helpful, but actuarially calculated expected annual loss projections are based on 100 year time horizons and it is difficult to convince management to base expenditure decisions on such long term estimates.

Also, senior management often take an overly optimistic view of their institution's ability to understand and control risk.

This combination of imperfect techniques and optimism often leads to a "it can't happen to us" attitude and a lack of planning.

### **RISK ASSESSMENT METHODOLOGY**

Here is a risk assessment methodology that addresses two basic questions.

1. Does management understand the significant risks faced by the institution?
2. What is management going to do about these risks?

All organizations are exposed to risk, and sometimes suffer losses.

Some of the terms that will be discussed as part of this methodology are:

- Risk: is the measure of a possible loss. Risk is usually measured in dollars.
- Losses: are realizations of exposures. Losses occur because of problems or events (exposures) within business processes and activities.
- Frequency: the number of expected (or actual) occurrences of a loss over time.
- Severity: the likely magnitude of a possible loss each time the loss occurs.
- Risk Control Costs: the estimated cost of preventative action.

Estimates of the potential frequency and severity of exposures, or possible losses, and cost of risk control measures are central to the risk assessment process.

It is suggested to use estimates (not in-depth analysis). Analysis is time consuming and expensive. Since most risks will be tolerated or ignored don't waste time and money analyzing insignificant risks. However, further analysis may be necessary for the more significant risks identified once the planning process has begun.

### **THE RISK ASSESSMENT PROCESS**

Exhibit 1 (on following page) outlines a six step process. First, consider what are the risks and where are they (Exhibit 2 on following page).

This exhibit (2) provides some idea of the range of possible risks faced by institutions today.

It's evident that the range of risks is large and can emerge from many areas. Most organizations traditionally limit the process to operational areas because they are the easiest to address.

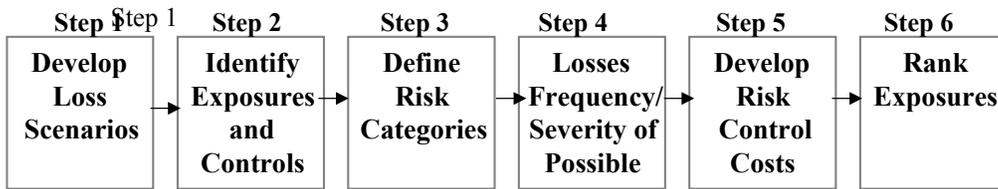
#### **UPCOMING REGIONAL RISK WORKSHOPS**

**Eastern Region**  
November 18 &  
19/03  
Halifax, NS

**Western Region**  
November 20 &  
21/03  
Saskatoon, SK

**Ontario Region**  
November 26 &  
27/03  
Guelph, ON

Exhibit 1 **RISK ASSESSMENT PROCESS**



Step 1 - Develop Loss Scenarios

A loss scenario is a brief description of contributing factors that cause accidental losses and are used to identify risks or potential losses before they happen. They are a means of converting abstract risks into losses (Exhibit 3).

Exhibit 2\*

*\*Source: H.F. Kloman "Making Risk Management Work in the University" The Delphian Vol. 3. No. 1 August/September 1992*

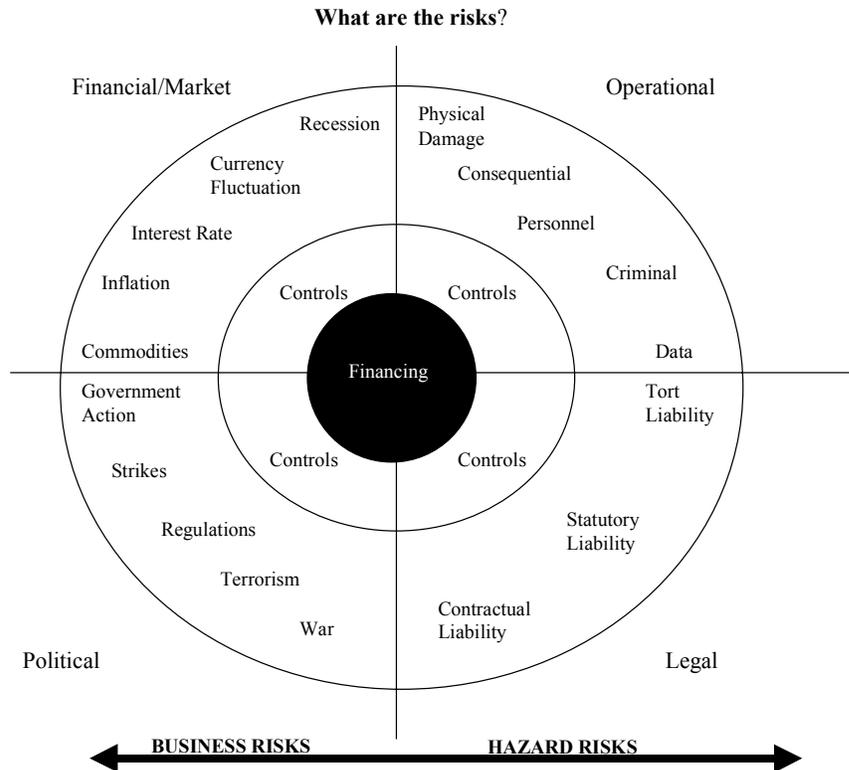
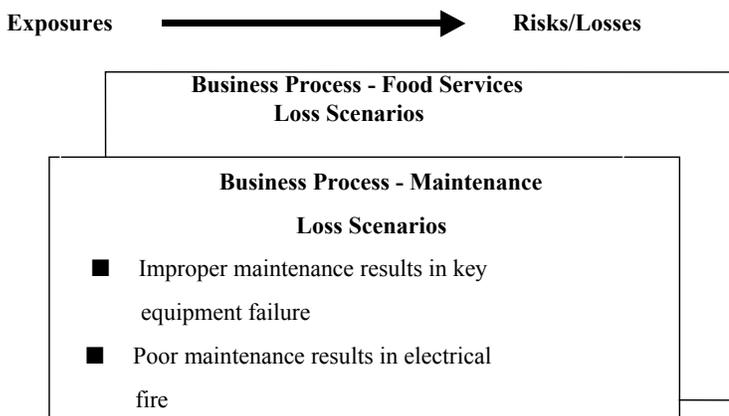


Exhibit 3

Risk assessment begins with the development of loss scenarios, defined as problems/events within the institution's business processes and activities that could result in losses



Illustrative

- Loss scenarios are based on:
- Knowledge gained by reviewing the university's historical data
  - Experience with similar organizations, processes and activities
  - Expert knowledge, intuition or imagination

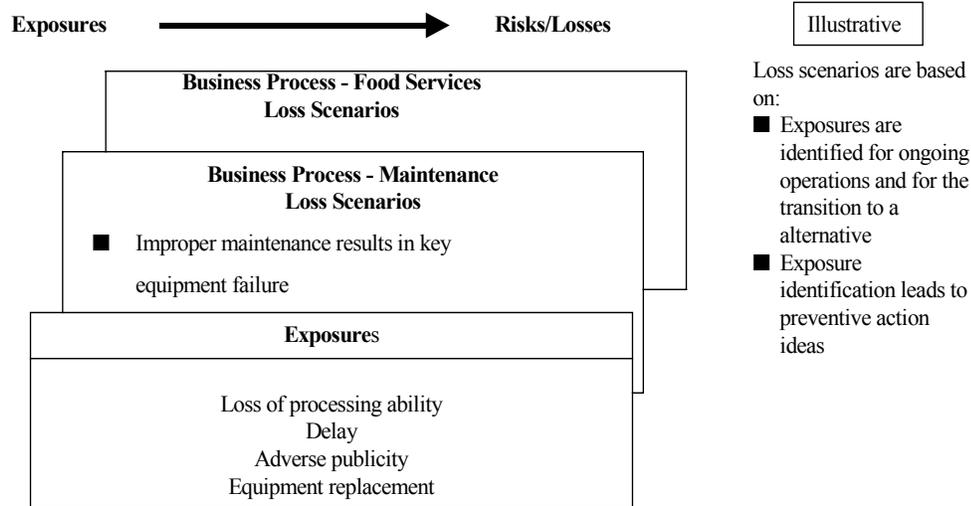
The scenarios are typically prepared by a group of people knowledgeable about the operational and financial aspects of your institution. A typical group might include the legal counsel, student affairs, risk management, security, information systems, and operations personnel. based on history, expert knowledge, and imagination (could it possibly happen?)

The purpose of developing scenarios is to develop preventative solutions and not to write "university horror stories".

**Step 2 - Exposures and Controls**

The loss scenarios are used to develop exposures to risk and identify loss control measures. Exhibit 4 illustrates how a list of exposures can be developed from a loss scenario. A list of exposures is developed for each loss scenario. As controls are discussed it should be remembered that not all controls will be feasible and that no controls are absolute. The residual risks should be addressed once the significant risks have been identified and the planning process commences.

Exhibit 4 **Loss scenarios are then used to develop exposures to risk and loss control measures**



**Step 3 - Define Risk Categories**

Defining risk categories provides a guide to who within the organization can be used as a resource when developing risk controls and determining risk control costs. It also provides a key to the area of responsibility most suited to the implementation of controls. Exhibit 5 illustrates five possible risk categories. The potential range of risk categories is illustrated in Exhibit 2.

Exhibit 5 **Definitions have been developed for illustrative purposes for five risk categories**

Risk Category	Definition	Representative Potential Losses
Operational	Risks associated with equipment breakdowns, operator errors, product quality, damage to facilities	- Cost of modifying processes - Cost of corrections - Cost of plant repair, business interruption
Fraud/Criminal	Risks derived from opportunities in system and processes for employees/non-employees to steal or commit other fraudulent or criminal acts.	- Loss of funds - Recovery costs
Legal/Professional	Risk associate with becoming the targets of lawsuits because of actual or alleged actions	- Legal fees/court costs - Diversion of management time and attention
Image/Marketing	Risks associated with declining public and individual student perceptions as a result of actions of the university	- Unwanted adverse attention and visibility - Incremental costs to re-establish image/reputation
Compliance	Those risks associated with failure to comply with applicable laws and regulations	- Penalties/fines - Increased regulatory scrutiny

#### Step 4 - Assess Frequency and Severity of Possible Losses

Exhibits 6 & 7 illustrate how frequency and severity can be quantified without in depth analysis.

One point to emphasize is that range sizes should be developed to reflect impact levels appropriate to an institution providing greater ability to withstand the impact of a loss.

Another point to keep in mind is that while the number of frequency or severity ranges in the scale is an individual decision, too many ranges can result in difficulty in obtaining consensus on the applicable risk assessment category and at this point of the process the fewer ranges the better.

Exhibit 6

<b>Frequency and severity are assessed according to defined scales that are relevant to your university</b>	
<b>FREQUENCY</b>	
Assessment	Definition
High	Loss is likely to occur on a - day - to - day basis
Medium	Loss is likely to occur one or more times per year
Low	Loss is likely to occur in the near term (the next three to five years), but less often than once a year
Very Low	Occurrence of a loss in the near term is possible, but unlikely

Exhibit 7

<b>SEVERITY</b>	
Assessment	Definition
Very High	-Magnitude of loss would call into question viability of the university -Magnitude of loss \$35 million and up
High	-Magnitude of loss would be materially disruptive to operations -Less than \$35 million, more than \$17.5 million
Medium	-Magnitude of loss would threaten viability of a single business process -\$1 million to \$17.5 million
Low	-Loss would be within typical range of losses associated with day-to-day activities -Magnitude of loss less than \$1 million

**Note:** For illustrative purposes \$35 million and \$17.5 million represent approximately 100% and 50% respectively of a hypothetical annual gross operating budget.

#### Step 5 - Develop Risk Control Costs

Again the emphasis is on defining a scale relevant to your institution and at the same time limiting the number of cost ranges (Exhibit 8 on next page)

Exhibit 9 (on next page) is a simple example of how the pieces come together and the costs identified for each control measure. This is done to each scenario for each business process (or operation etc.)

**Step 6 - Rank Exposures**

The final step in this assessment process is to assign a ranking based on severity, probability and cost of preventative measures (Exhibit 10 on next page). The highest ranked risk is the risk that should receive the highest priority. The highest ranked risk is a high severity, very high frequency, very low cost to control risk. This numerical ranking method is shown on Exhibit 11(on next page).

Exhibit 8

<b>Risk control costs are assessed according to a defined scale that is relevant to your university</b>	
<b>RISK CONTROL COSTS</b>	
Assessment	Definition
High	Costs exceed \$1 million
Medium	Costs range from \$250,000 to \$1,000,000
Low	Costs range from \$100,000 to \$250,000
Very Low	Costs less than \$100,000

**BULLETIN:**

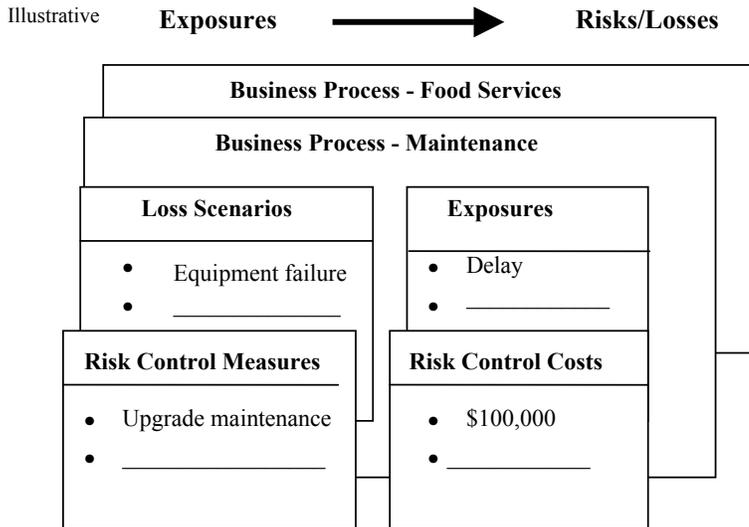
It has been suggested by several of our subscribers to remind new risk managers that CURIE has an internet discussion group.

**Subscribers-L Discussion List:**

To subscribe to the list send an email message to [subscribers-l-request@curie.org](mailto:subscribers-l-request@curie.org) with the word JOIN in the body of your message. If you have any questions or problems please contact Carrie in our office.

Exhibit 9

**Frequency, severity and control cost numerical scales (or any other ranking method)**



Going down the ranking, the significance of the risk diminishes. For each institution there will be a cutoff point at which risk will be accepted or tolerated rather than controlled (Not all identified risks need to be controlled.).

The determination of the cutoff point or risk retention level is an exercise that each institution should go through based on their own financial capability and risk tolerance. There are rules-of-thumb that are used as guides in determining retention levels. For

example an institutions' retention level should represent a balance between ability to retain risk and the cost efficiency involved in transferring risk.

Exhibit 10

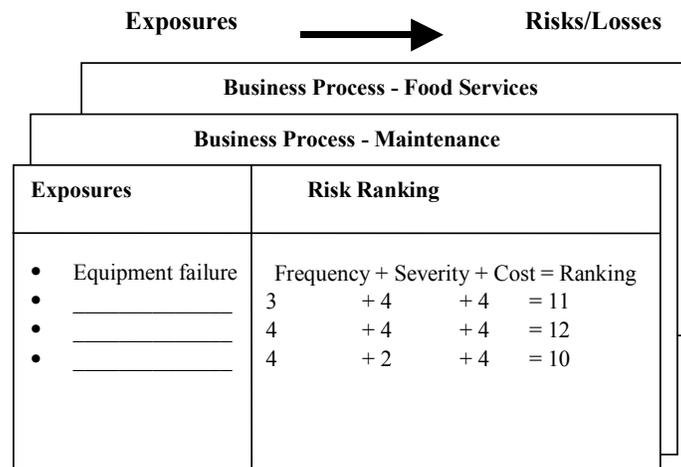
**Estimates of frequency and severity are then combined with risk control costs and a ranking is developed for each exposure**

Frequency Assessment	Severity Assessment	Risk Control Costs Assessment
High 4	Very High 4	High 1
Medium 3	High 3	Medium 2
Low 2	Medium 2	Low 3
Very Low 1	Low 1	Very Low 4

Exhibit 11

**Estimating the risk control costs begins by considering loss scenarios and exposures within identified risk category**

Risk control measures are not perfect and do not eliminate all possibility of loss.



SOME FINAL COMMENTS

Risk control measures are not perfect and do not eliminate all possibility of loss. An institution can accept risks, prevent/control risks, transfer risks, spread risks, avoid risks and finance risks. They can use a single technique or more likely some combination of these techniques to live with their risks. This six step process allows management to take advantage of available information and evaluation techniques to cut through the large number or risks faced by their institutions and to identify and concentrate their planning efforts on those risks that represent the greatest threat to their survival. ■



# Strathcone - Tweedsmuir School Avalanche Fatality Report

**O**n February 1, 2003, 7 grade 10 students were killed by an avalanche while on a school outdoor education trip.

Subsequent to the accident the school commissioned a diagnostic report to review the existing safety proceeding and to provide assistance and advice to the board of governors of the school and the school community in the areas of governance and decision making for such programs

The 58 page report provides a valuable discussion of the issue of "risk tolerance" and risk management for outdoor activities and readers would find many useful ideas for your own outdoor programs and camps.

The entire report can be accessed in pdf format at the Strathcona Tweedsmuir School website - [www.sts.ab.ca](http://www.sts.ab.ca)



## DATE TO MARK ON YOUR CALENDAR

**CURIE University & College Risk Management Conference** (*Sat. 9-4, Sun. 9-1*)

-  **CURIE Board/Staff Update Presentation** by Ian Nason (*CURIE - Chair*)
-  **Insurance Version of Hollywood Squares** starring: *CURIE Board*
-  **Injuries Are Not Accidents** by *Dr. Robert Conn of Smartrisk*
-  **Liability & Hazardous Waste** by *Grant Sharp & Patrick Whitty of RPR Environmental*
-  **Construction & How to Manager Your Risk** - by *Michael. Atkinson of Willis Canada, Kate O'Hare of ENCON*
-  **How Do You Measure Up - Sports Survey? -** by *Ian McGregor of McGregor & Associates*
-  **Managing the Fear Factor** - by *Janet Stein, D. Woods, R. Cooney of University of Calgary & J. Loughheed of Fraser Milner Casgrain*
-  **Member roundtable discussion (bring your questions &/or problems to discuss with your peers)**

REGISTRATION FORMS HAVE BEEN SENT OUT IN LATE JULY TO OUR SUBSCRIBERS. IF YOU WOULD LIKE TO ATTEND BUT DID NOT RECEIVE YOUR FORM, PLEASE CALL TERRY PAGE (905-336-3366) OR E-MAIL ([tpage@curie.org](mailto:tpage@curie.org))

CURIE Risk Management Newsletter  
Published and distributed by Canadian Universities Reciprocal Insurance Exchange (C.U.R.I.E.), 5500 North Service Rd., 9<sup>th</sup> Floor, Burlington, ON L7L 6W6  
ISSN 1196-085X  
Telephone: (905)336-3366 Fax: (905)336-3373 Editor: Keith Shakespeare  
Opinions on insurance, financial, regulatory and legal matters are those of the editor and others, professional counsel should be consulted before any action or decision based on this material is taken.